TERRAINKING™

Engineering Practical Solutions™

OPERATOR'S MANUAL

KB1800
KB2200

BOOM ARM MOWER

This Operator's Manual is an integral part of the safe operation of this machine and must be maintained with the unit at all times. READ, UNDERSTAND, and FOLLOW the Safety and Operation Instructions contained in this manual before operating the equipment. ***C01-Cvr Kubota***

Published 08/11

Part No. 37002988395

Terrain King

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MEMBER OF THE ALAMO GROUP

ALWAYS ON THE CUTTING EDGE®

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$0.00

To the Owner/Operator/Dealer

This Operator's Manual is an integral part of the safe operation of this machine and must be maintained with the implement at all times. A Manual canister is provided on the implement where this manual can be properly stored. If you lose or damage this manual a free replacement manual can be obtained from an authorized *Terrain King* dealer or by down loading the manual from the *Terrain King* website www.www.terrainking.com

BEFORE YOU START!! READ, UNDERSTAND, and FOLLOW the information provided in this manual, the AEM Mower Safety manual and the tractor operator's manual carefully to learn how to operate and service your machine properly. Failure to do so could result in personal injury to you and bystanders. All implements with moving parts are potentially hazardous. Every effort has been made to ensure that the machine is safe but operators must avoid engaging in unsafe practices and follow the written instructions provided. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

SAFETY FIRST. Completely read and understand the safety section of this manual before operating this equipment. Do not allow anyone to operate this equipment who has not fully read and understood this manual. Contact your Dealer to explain any instructions that you do not fully understand.

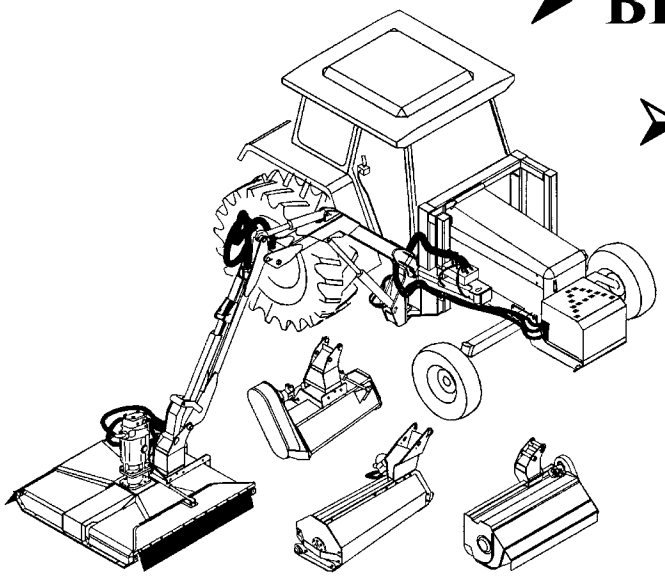
The care you give your *Terrain King* Implement will greatly determine your satisfaction with its performance and its service life. Carefully read and follow the instructions in this manual to provide you with a thorough understanding of your new implement and its intended use and service requirements.

All references made in this manual to right, left, front, rear, top or bottom are as viewed facing the direction of forward travel with the implement properly attached to the tractor.

Replacement Parts information is located in a separate Parts Manual. *Terrain King* mowers use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drivetrain components, and bearings. These parts are made and tested to *Terrain King* specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of "will fit" parts may reduce mower performance, void warranties, and present a safety hazard. Use genuine *Terrain King* mower parts for economy and safety.

For future reference, record your *Terrain King* product model number and serial number.

Dealer		Telephone		Model Number	
Owner		Purchase Date:		Serial Number	



➢ BE SAFE!

➢ BE ALERT!

➢ BE ALIVE!

➢ BE TRAINED before operating the Mower!

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Safety Training Makes the Difference

In order to reduce accidents and enhance the safe operation of mowers, *Terrain King,* in cooperation with other industry manufacturers has developed the AEM/FEMA Industrial and Agricultural Mower Safety Practices video and guide book.

The video will familiarize and instruct mower-tractor operators in safe practices when using industrial and agricultural mowing equipment. It is important that Every Mower Operator be educated in the operation of their mowing equipment and be able to recognize the potential hazards that can occur while operating a mower. This video, along with the mower operator's manual and the warning messages on the mower, will significantly assist in this important education.

Your Authorized *Terrain King* Dealer may have shown this video and presented you a DVD Video when you purchased your mower. If you or any mower operator have not seen this video, **Watch** the **Video, Read** this **Operator's Manual,** and **Complete** the **Video Guidebook** before operating your new mower. If you do not understand any of the instructions included in the video or operator's manual or if you have any questions concerning safety of operation, contact your supervisor, dealer or *Terrain King*.

If you would like a VHS video tape of the video, please email AEMVideo@alamo-group.com or Fax AEM VHS Video at (830) 372-9529 or mail in a completed copy of the form on the back of this page to AEM VHS Video 1502 E Walnut Street, Seguin, TX 78155. and request the VHS video version. Please include your name, mailing address, mower model and serial number.

Every operator should be trained for each price of equipment (Tractor and Mower), Understand the intended use, and the potential hazards before operating the equipment.

The information and material listed above along with this Operator's Manual can assist you in meeting the OSHA requirement for Operator annual training.

OSHA TRAINING REQUIREMENTS

The following training requirements have been taken from Title 29, Code of Federal Regulations Part 1928.57 (a)(6). www.osha.gov

Operator Instructions. At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee who operates an agricultural tractor or implement in the safe operating practices and servicing of equipment with which they are or will be involved, and of any other practices dictated by the work environment.

Terrain King Division is willing to provide one (1) AEM Mower Safety Practices Video

Please Send Me: ☐ VHS Format – AEM/FEMA Mower Operator Safety Video

☐ DVD Format – AEM/FEMA Mower Operator Safety Video

☐ Mower Operator's Manual

☐ AEM Mower Operator's Safety Manual

Requester Name _____ Phone: _____

Requester Address: _____

City _____

State _____

Zip Code _____

Mower Model: _____ Serial Number: _____

Date Purchased: _____ Dealer Salesperson: _____

Dealership Name: _____ Dealership Location: _____

Mail to:

AEM Video Services

1502 E. Walnut Street

Seguin, TX 78155

Or Fax to:

(830) 372-9529

Or Email to:

AEMVideo@alamo-group.com

DEALER to CUSTOMER Pre-Delivery/ Operation Instructions

Dealer should inform the Purchaser of this product of Warranty terms, provisions, and procedures that are applicable. Dealer should inform Purchaser to review the contents of the Operator's Manual including safety equipment, safe operation and maintenance, to review the Safety Signs on the implement (and tractor if possible) and of Purchaser's responsibility to train his/her operators's of safe operation procedures.

- **IMPLEMENTS:** I have explained that Deflectors, Chain Guards, or Solid Skirts must be installed and maintained in good repair.

- **DRIVELINES:** I have made certain that all driveline, gearbox, and other shields are in good repair and fastened securely in place to prevent injuries from entanglement or thrown objects.

- **HYDRAULIC MACHINES:** I have explained the necessity of using clean hydraulic oil, changing filters as instructed, stopping leaks, damage caused by operating with over-heated oil, caring for hoses, using hoses of proper rating, maintaining the specified operating pressure and the potential hazard of oils penetrating the skin.

- **FOLDING-TYPE IMPLEMENTS:** I have explained that it is not possible to guard against thrown objects when the head is lifted off ground and that operator is responsible to watch out for persons in the area. I have explained that the lifted mower head or boom can contact overhead obstructions with damage to cables and telephone lines and possible injury. I have explained that the extended head or boom or retracted boom can contact power lines resulting in electrocution, injury or death and that operator is responsible for keeping clear of such hazards.

PRE-DELIVERY SERVICE
CHECK AND ADJUST OR LUBRICATE AS REQUIRED
See Operator's Manual for Details
Inspection Performed - Warranty and Safety Procedures Explained - Installation Complete

LUBRICATION & HYDRAULICS

- ☐ Gearbox (Oil Levels)
- ☐ Hydraulic Oil Level (External Tank)
- ☐ Tractor Hydraulic Oil Level
- ☐ Hydraulic Hoses (Not Kinked Tighten Connections)
- ☐ Front Pump Drive (Assembly Is Tight And Shaft Properly Aligned)

MOWER

- ☐ Mower Cutting Height And Level Adjusted
- ☐ Cutting Shaft Bearings Lubricated
- ☐ All Hardware Properly Torqued

ATTACHMENTS & INSTALLATION

- ☐ Deflectors Front And Rear
- ☐ Correct Blade Rotation Direction

MOWER TO TRACTOR CONNECTIONS

- ☐ A-Frame Pivot & Links
- ☐ Axle Height (Adjusted)
- ☐ Cutting Height (Adjust)
- ☐ Mount Kit-Pre-Operation Check Complete
- ☐ Mower Wing (Adjust Level With The Center)
- ☐ Mower Wing (Check For Proper Raising Operation)
- ☐ Mounting Hardware Properly Torqued

SAFETY ITEMS

- ☐ Protective Shields (Operation And Installation)
- ☐ Driveline Clutch (Torque Limiter) (Adjust And Run In)
- ☐ Safety Decals (Installed)
- ☐ Operator's Manual (Supplied)
- ☐ Tractor PTO Shield (Installed)
- ☐ S.M.V. Emblem (Installed If Needed)
- ☐ ADMA Driveline Safety Manual Supplied
- ☐ AEM Mower Safety Manual (Supplied in Canister)
- ☐ AEM Mower Safety Video has been shown to Purchaser

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SAFETY SECTION

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SAFETY

GENERAL SAFETY INSTRUCTIONS AND PRACTICES

A careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this Implement. This equipment should only be operated by those persons who have read the manual, who are responsible and trained, and who know how to do so responsibly.

The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: “ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!” The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment.

Practice all usual and customary safe working precautions and above all---remember safety is up to <u>YOU</u>. Only <u>YOU</u> can prevent serious injury or death from unsafe practices.

⚠ DANGER Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.

⚠WARNING Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.

⚠ CAUTION Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

Important Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

NOTE: *Identifies points of particular interest for more efficient and convenient operation or repair.*

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in this Manual and in the Safety Messages on the implement. Always follow the instruction in this manual and use good common sense to avoid hazards.

NOTE: *If you want a translation of this safety section in one of the following Languages, please contact: Translations at 1502 E. Walnut Street Seguin, TX 78155; Fax: (830) 372-9529; Safety Section Translations are available in Spanish, Portuguese, French, German, Russian.* ***PN GS01***

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SAFETY

OPERATOR SAFETY

Read and understand Operator's Manual	Always wear Safety Glasses	Wear Hard Hat Safety Shoes	Never use Drugs or Alcohol when operating equipment	Wear Safety Vest when operating on or near roads

WARNING **TO AVOID SERIOUS INJURY OR DEATH DO THE FOLLOWING:**

- **READ, UNDERSTAND** and **FOLLOW** Operator's Manual instructions, Warnings and Safety Messages.
- **WEAR SAFETY GLASSES**, safety shoes, hard hat, hearing protection and gloves when operating or repairing equipment
- **WEAR** appropriate breathing respirator when operating in dusty conditions to avoid respiratory diseases.
- **DO NOT WEAR** loose clothing or jewelry to avoid rotating parts entanglement injury.
- **DO NOT USE DRUGS** or **ALCOHOL** before or while operating equipment.
- **DO NOT ALLOW** anyone to operate equipment under the influence of drug or alcohol.
- **CONSULT** medical professional for medication impairment side effects.
- **STAY CLEAR** of hot surfaces such as Mufflers, hydraulic pumps, valves and tanks.
- **STAY ALERT**, prolonged operation can cause fatigue, **STOP** and **REST**.

GENERAL OPERATING SAFETY

VISIBILITY CONDITIONS WHEN MOWING:

- **OPERATE IN DAYLIGHT** or with lights that gives at least 100 yards clear vis bility.
- **BE ABLE TO SEE** and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects.
- Avoid backing up while mowing, vision may be limited, severe damage or injury can occur.
- DO NOT run tractor in enclosed building without adequate exhaust ventilation.

GROUND SPEED WHEN MOWING:

- **NORMAL SPEED** range is between 1 to 2 mph(1-3 kph).
- **ADJUST MOWING SPEED** for terrain conditions and grass type, density and cut height.
- **REDUCE MOWING SPEED** when near steep slopes, ditches, drop-offs, overhead obstructions, power lines and to avoid debris and foreign objects.

TRACTOR and MOWER

- **DO NOT** operate the tractor or mower unless the equipment is maintained and operating properly.
- **DISCONTINUE OPERATION** if tractor or mower electrical and hydraulic controls do no function properly.
- **DISCONTINUE OPERATION** of the tractor if the braking or steering systems do not function properly.
- **DO NOT** operate the tractor or mower if there are any hydraulic leaks.

INSECT INFESTATION

- **DO NOT** operate in areas where bees or insects may attack unless you **WEAR PROTECTIVE CLOTHING** or use enclosed tractor cab.

PTO SPEED:

- **DO NOT EXCEED IMPLEMENT RATED PTO SPEED**
- **AVOID** exceeding rated PTO speeds that may result in broken drivelines or blade failures.

SAFETY SIGNS:

- **REPLACE** missing, damaged or unreadable safety signs immediately. ***PN OSBM-01***

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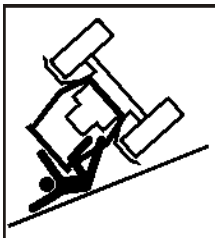
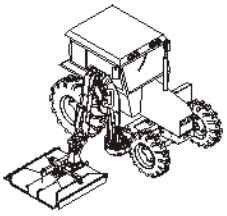
SAFETY

CRUSHING HAZARDS

				
Crushing injury from roll over	Use Cab Tractor With Boom Mowers	Always wear seatbelt	Pinch Point Hazard Keep Hands and body parts clear of pinch points	Crushing injury from boom or mower head falling

DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM FALLING OFF TRACTOR, EQUIPMENT RUN OVER, ROLLOVER AND CRUSHING BY FALLING WING OR IMPLEMENT:**

- **USE ROPS** and **SEAT BELT** equipped tractors for mowing operations.
- **KEEP ROPS** lock in up position.
- **ALWAYS BUCKLE UP** seat belt when operating tractor and equipment.
- **ONLY OPERATE** tractor and equipment while seated in tractor seat.

WHEN RAISING BOOM MOWER:

- Raise or lower **ONLY WHILE SEATED** in tractor seat with seat belt buckled.
- **KEEP BYSTANDERS CLEAR** of area **TO AVOID** crushing.
- **KEEP** sufficient clearance around implement and wings **TO AVOID** contacting buildings or overhead power lines.

LIFTED Equipment can fall from mechanical or hydraulic failure or inadvertent Control Lever movement.

WARNING **TO AVOID EQUIPMENT FALLING while working near or under lifted boom, components and Mower Head:**

- **SECURELY SUPPORT or block up raised equipment, wings and components.**
- **BLOCK UP and securely support equipment before putting hands, feet or body under raised equipment or lifted components.**
- **KEEP BYSTANDERS CLEAR of raised boom or mower head until securely blocked up.**

WHEN PARKING Implement and Tractor:

- **LOWER** Mower Head to the ground or **BLOCK** lifted parts before leaving equipment.
- **NEVER** leave implement unattended in a raised position.

WARNING **TO AVOID CHILDREN FALLING OFF OR BEING CRUSHED BY EQUIPMENT:**

- **NEVER ALLOW** children to play on or around Tractor or Implement.
- DO NOT operate without operator CAB or OVERHEAD protection. Falling limbs and debris can cause injuries. ***PN CHBM-01***

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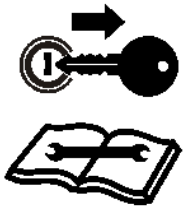
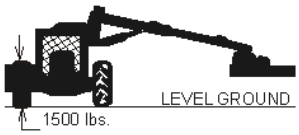
CONNECTING OR DISCONNECTING IMPLEMENT SAFETY

			
Stop Tractor Remove Key Read Manual	Crushing Hazard Do Not get under boom when connecting mower head to boom	Stability Hazard Ensure 20% of tractor weight is on front wheels	Stability Hazard Ensure 1500lbs down force on left tire with boom extended

⚠ DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM BEING CRUSHED BY TRACTOR OR IMPLEMENT:**

WHEN connecting mower head to the boom:

- **KEEP BYSTANDERS AWAY** from tractor and mower.
- Ensure there is enough room to lift and swing the boom with out hitting objects

BEFORE connecting and disconnecting the mower head or boom:

- **STOP TRACTOR ENGINE**, place transmission into park, engage parking brake and remove key.

WHEN connecting and disconnecting the mower head or boom:

- DO NOT crawl or walk under raised mower head or boom. ***(Refer to Instructions in Operation Section)***

WHEN CONNECTING IMPLEMENT DRIVELINE:(If equipped)

TO AVOID implement driveline coming loose during operation:

- **LUBRICATE** yoke spring locking collar to ensure it freely slides on PTO shaft.
- **SECURELY** seat yoke locking balls in PTO shaft groove.
- **PUSH** and **PULL DRIVELINE** on both the tractor and implement **PTO SHAFTS** to ensure it is **SECURELY ATTACHED.**

TO AVOID broken driveline during operations:

- **CHECK** driveline for proper length between PTO shaft and implement gearbox shaft.***(Refer to Instructions in Operation Section)***
- Drivelines too short can pull apart or disengage.
- Drivelines too long can bottom out.
- Bottoming driveline telescoping assembly will stop sliding and become solid.
- Driveline bottoming can push through support bearings and break off PTO shaft.

CONTACT DEALER if implement driveline does not match Tractor PTO shaft:

- **DO NOT USE PTO ADAPTER.**
  Using a PTO adapter can cause:
- Excessive vibration, thrown objects, blade and implement failures by doubling operating speed.
- Increased working length exposing unshielded driveline areas and entanglement hazards. ***PN CDBM-01***

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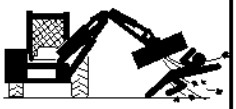
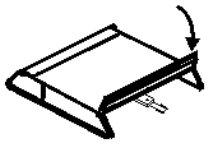
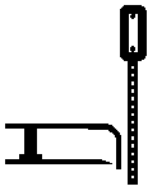
THROWN OBJECTS HAZARDS

				
Mower Thrown Objects Hazard	Raised Mower Thrown Objects	Keep mower door closed when traffic comes within 300 feet	Inspect Area remove foreign objects	Do not let blades contact solid objects

⚠ DANGER **ROTARY MOWERS CAN THROW OBJECTS 300 FEET OR MORE UNDER ADVERSE CONDITIONS.**

TO AVOID SERIOUS INJURY OR DEATH TO OPERATOR OR BYSTANDERS FROM THROWN OBJECTS:

- KEEP bystanders 300 feet away

STOP MOWING IF PASSERSBY ARE WITHIN 300 FEET UNLESS:

- **All THROWN OBJECT SHIELDING** including, Front and Rear Deflectors, Chains Guards, Steel Guards, Bands, Side Skirts and Skid Shoes in place and in good condition when mowing.
- Mower is close and parallel to ground without exposing blades.
- **MOWING AREA** has been inspected and foreign materials and debris have been removed.
- **DO NOT** shred or mow loose or previously cut material if BYSTANDERS are within 300 feet.
- **PASSERSBY** are inside enclosed vehicle.

INSPECT AREA FOR POTENTIAL THROWN OBJECTS BEFORE MOWING:

- **REMOVE** debris, rocks, wire, cable, metal objects and other foreign material from area.
  Wire, cable, rope, chains and metal objects can be thrown or swing outside deck with great velocity**:**
  1. **MARK** objects that cannot removed.
  2. **AVOID** these objects when mowing.

HIGH GRASS and WEED AREA INSPECTION:

- **INSPECT** for and **REMOVE** any hidden large debris.
- **MOW** at Intermediate height
- **INSPECT** and remove remaining debris
- **MOW** at final height.

MOWER THROWN OBJECT SHIELDING:

- **KEEP** all thrown object shielding including, Front and Rear Deflectors, Chains Guards, Steel Guards, Bands, Side Skirts and Skid Shoes in place and in good condition when mowing.
- **DO NOT OPERATE** with any thrown object shielding missing, damaged or removed.

RIGHT OF WAY (Highway) MOWING

- Stop mowing if any bystander comes within 300 feet of the mower.
- No shielding is 100% effective in preventing thrown objects. To Reduce Possibility of Injury:
  1. **MAINTAIN MOWER SHIELDING**, side skirts, skid shoes, and blades in good operational condition,
  2. **RAISE CUTTING HEIGHT** to **6 INCHES** minimum,
  3. **INSPECT AREA** thoroughly before mowing to **REMOVE** potential **THROWN OBJECT HAZARDS**,
  4. **NEVER ALLOW BLADES to CONTACT SOLID OBJECTS** like wire, rocks, post, curbs, guardrails, or ground while mowing. ***PN TOBM-01***

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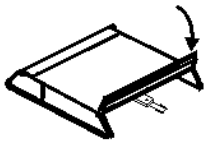
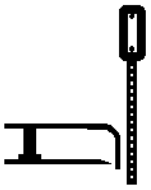
THROWN OBJECTS HAZARDS (Continued)

				
Mower Thrown Objects Hazard	Raised Mower Thrown Objects	Keep mower door closed when traffic comes within 300 feet	Inspect Area remove foreign objects	Do not let blades contact solid objects

MOWER OPERATION:

- **DO NOT** exceed mower's rated Cutting Capacity or cut non-vegetative material.
- **USE ENCLOSED TRACTOR CABS** when two or more mowers are operating in mowing area.
- Do Not mow in areas where bees or insects may attack unless you **WEAR PROTECTIVE CLOTHING** or use enclosed tractor cab.
- **ADJUST** mower head close and parallel to ground without exposing blades.
- **ADJUST** cutting **HEIGHT** to **AVOID BLADE CONTACT** with solid objects like wire, rocks, posts, curbs, guard rails and fixed obstructions.
- **CLOSE** Mower door and stop operating if bystanders come within 300 feet of the mower.
- Keep mower door closed when cutting close to the ground.
- Open door only to cut large brush or tree limbs. Close door immediately after cutting limb.
- **DO NOT** push mower head down onto material to cut it, use the front tips of the mower blades to cut into the material.
- **DO NOT** operate mower when mower is in transport position.
- **STOP MOWING** immediately if blades strike heavy objects, fixed structures, metal guard rails and concrete structures:
  1. **BLADES CAN FAIL** from impact and objects can be thrown with great velocity.
  2. **INSPECT** and **REPLACE** any damaged blades.
  3. **CHECK** blade carrier and **REPLACE** if damaged.
- **DO NOT** mow in standing water **TO AVOID** possible **BLADE FAILURE**.
- **AVOID MOWING** in reverse:
  1. **STOP PTO** and back up mower.
  2. **LOWER** mower, engage **PTO** and mow forward.
- **DISENGAGE** mower head and wait until **BLADES** stop rotating before raising mower to transport position.
- **DO NOT ENGAGE PTO** with mower in transport position.
- **STOP** mowing when **EXCESSIVE VIBRATION** occurs:
  1. **STOP PTO** and tractor **ENGINE.**
  2. **INSPECT** mower for vibration source.
  3. **REPLACE** any damage parts and bent or damaged **BLADES**. ***PN TOBM-02***

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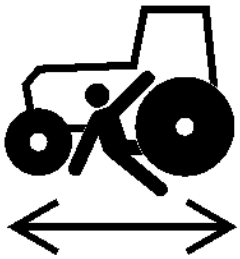
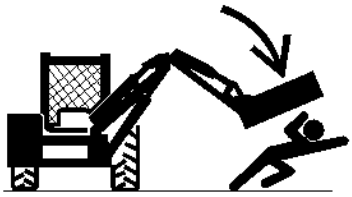
SAFETY

RUN OVER HAZARDS

		
Operator run over hazard	Rider fall off run over hazard	Bystander run over hazard

⚠ DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM FALLING OFF TRACTOR OR EQUIPMENT RUN OVER:**

- **USE ROPS** and **SEAT BELT** equipped tractors for mowing operations.
- **KEEP ROPS** locked in **UP** position.
- **ONLY** start tractor while seated in tractor seat.
- **ALWAYS BUCKLE UP** seat belt when operating tractor and equipment.
- **ONLY OPERATE** tractor and equipment while seated in tractor seat.
- **NEVER ALLOW RIDERS** on tractor or implement.
- When not mowing stow Boom and Mower head in transport location before moving.

WHEN MOUNTING AND DISMOUNTING TRACTOR:

- **ONLY** mount or dismount when tractor and moving parts are stopped**.**
- **STOP ENGINE AND PTO,** engage parking brake, lower implement, allow all moving parts to stop and remove key before dismounting from tractor. ***PN ROBM-01***

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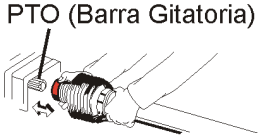
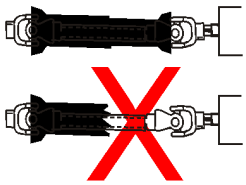
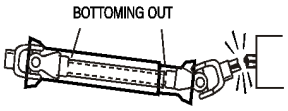
PTO ENTANGLEMENT HAZARDS

			
Entanglement hazard Do Not approach or touch a rotating PTO driveshaft	Make sure PTO shaft is securely attached Do Not Use PTO Adapter	DO NOT Operate if PTO shields are damaged or missing	Make sure PTO shafts are proper length

⚠ DANGER **KEEP AWAY FROM ROTATING DRIVELINES AND ELEMENTS TO AVOID SERIOUS INJURY OR DEATH:**

STAY AWAY and **KEEP** hands, feet and body AWAY from rotating blades, drivelines and parts until all moving elements have stopped.

- **STOP, LOOK** and **LISTEN** before approaching the mower to make sure all rotating motion has stopped.
- **ROTATING COMPONENTS CONTINUE** to **ROTATE** after the PTO is shut off.

PTO SHIELDING:

TO AVOID SERIOUS INJURY OR DEATH FROM ENTANGLEMENT WHEN OPERATING IMPLEMENT:

- **KEEP PTO** shields, integral driveline shields and input shields installed
- **DO NOT OPERATE** mower without shields and guards in place or missing
- **REPAIR OR REPLACE** if damage, broken or missing
- **ALWAYS REPLACE GUARDS** that have been removed for service or maintenance.
- Do Not use PTO or PTO guard as a step.

TO AVOID broken driveline during operations:

- **CHECK** driveline for proper length between PTO shaft and implement gearbox shaft.***(Refer to Instructions in Operation Section)***
- Drivelines too short can pull apart or disengage.
- Drivelines too long can bottom out.

  Bottoming driveline telescoping assembly will stop sliding and become solid.
- Driveline bottoming can push through support bearings and break off PTO shaft
- **AVOID** sharp turns or lift mower to heights to cause driveline "knocking".
- Lubricate driveshaft-telescoping components weekly.

CONTACT DEALER if implement driveline does not match Tractor PTO shaft:

- **DO NOT USE PTO ADAPTER.**

  Using a PTO adapter can cause excessive vibration, thrown objects, blade and implement failures by doubling operating speed. Increased working length exposing unshielded driveline areas. ***PN PE01***

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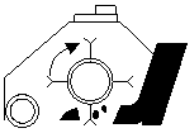
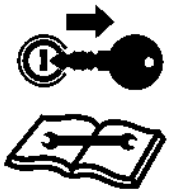
MOWER BLADE CONTACT HAZARDS

					
Do not put fingers underneath mower	Do not put hands underneath Flail Mower	Do not put foot underneath mower	Do not put foot underneath Flail Mower	Shearing Hazard from Sickle blades	Stop Tractor Remove Key Read Manual

⚠ DANGER **KEEP AWAY FROM ROTATING BLADES TO AVOID SERIOUS INJURY OR DEATH FROM BLADE CONTACT:**

- **STAY AWAY** and **KEEP HANDS, FEET** and **BODY AWAY** from rotating blades, drivelines and parts until all moving elements have stopped.
- **DO NOT** put hands or feet under mower decks
- **STOP** rotating **BLADES** disengage mower switch and PTO and wait for blade to stop rotating before raising mower head.
- DO NOT approach Sickle Bar head until Tracto Engine has been shut off.
- **STOP LOOK** and **LISTEN** before approaching the mower to make sure all rotating motion has stopped. ***PN MBBM-01***

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HIGH PRESSURE OIL LEAK HAZARD

High pressure oil penetrating skin	High pressure oil eroding skin	Using cardboard to check for oil leaks	Tank contents under pressure. Allow oil to cool before slowly removing cap

⚠ DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM HIGH PRESSURE HYDRAULIC OIL LEAKS PENERATING SKIN:**

- **DO NOT OPERATE** equipment with oil or fuel leaks.
- **KEEP** all hydraulic hoses, lines and connections in **GOOD CONDITION** and **TIGHT** before applying system pressure.
- **RELIEVE HYDRAULIC PRESSURE** before disconnecting lines or working on the system.
- **REMOVE** and replace hose if you suspect it leaks. Have dealer test it for leaks.

HIGH PRESSURE FLUID LEAKS CAN BE INVISIBLE.

WHEN CHECKING FOR HYDRAULIC LEAKS AND WORKING AROUND HYDRAULIC SYSTEMS:

- **ALWAYS WEAR** safety glasses and impenetrable gloves.
- **USE** paper or cardboard to search for leaks.
- **DO NOT USE** hands or body parts to search for leak.
- **KEEP** hands and body **AWAY** from pin holes and nozzles ejecting hydraulic fluid.
- Hydraulic fluid may cause gangrene if not surgically removed immediately by a doctor familiar with this form of injury.

Use caution when removing Hydraulic Tank cap.

- Tank contents maybe under pressure
- Allow oil to cool before removing cap.
- Relieve oil pressure before removing cap slowly.
- Stay away from hot oil that may spray from tank.

PN HPBM-01

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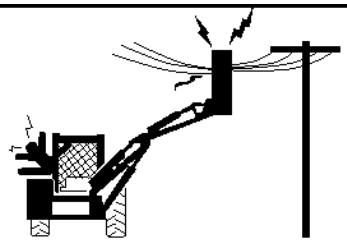
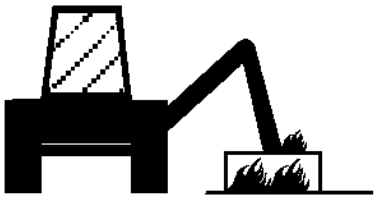
ELECTRICAL & FIRE HAZARDS

		
Mower head or Boom contacting overhead electrical lines	Strike and explosion Hazard Blades Contacting Utility or Gas Lines	Fire Hazard Do Not operate near fires. Keep debris away from hydraulic pumps and valves

⚠ DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM ELECTRICAL CONTACT WHEN WORKING AROUND ELECTRICAL POWER LINES, GAS LINES AND UTILITY LINES:**

- **INSPECT** mowing area for overhead or underground electrical power lines, obstructions, gas lines, cables and Utility, Municipal, or other type structure.
- **KEEP** all raised wings at a 10 feet or greater distance from all power lines and overhead obstructions.
- **DO NOT** allow mower to contact with any Utility, Municipal, or type of structures and obstructions.
- **CALL 811** and 1-800-258-0808 for identify buried utility lines.

FIRE PREVENTION GUIDELINES while Operating, Servicing, and Repairing Mower and Tractor to reduce equipment and grass fire Risk:

- **EQUIP** Tractor with a **FIRE EXTINGUISHER**
- **DO NOT OPERATE** mower on a tractor equipped with under frame exhaust
- **DO NOT SMOKE** or have open flame near Mower or Tractor
- **DO NOT DRIVE** into burning debris or freshly burnt area
- **AVOID FIRE IGNITION** by not allowing mower blade to contact solid objects like metal or rock.
- **DO NOT** operate if oil is leaking. Repair oil leak and remove all accumulated oil before operating.
- **CLEAR** any grass clippings or debris buildup around mower hydraulic pumps, valves or tanks.
- **SHUT OFF ENGINE** while refueling. ***PN EFBM-01***

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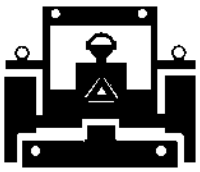
TRANSPORTING HAZARDS

		
Use SMV signs and Flashing Lights	Loss of Control Stopping Hazard	Loss of Control Speeding Hazard

⚠WARNING **TO AVOID SERIOUS INJURY AND DEATH WHEN TOWING OR TRANSPORTING EQUIPMENT:**

- **KEEP** transport speed **BELOW** 20 mph to maintain control of equipment.
- **REDUCE SPEED** on inclines, on turns and in poor towing conditions.
- **DO NOT TOW** with trucks or other vehicles.
- **USE** only properly sized and equipped tractor for towing equipment.
- **FOLLOW** all local traffic regulations.

TRACTOR REQUIREMENTS FOR TOWING OR TRANSPORTING IMPLEMENTS:

- **ONLY TRANSPORT** with tractor with **ROPS** in the raised position.
- **USE** properly sized and equipped tractor that exceeds implement weight by at least 20%.
- **KEEP** 20% of tractor weight on front wheels to maintain safe steering.

BEFORE TRANSPORTING OR TOWING IMPLEMENT:

TRACTOR INSPECTION:

- **CHECK** steering and braking for proper operation and in good condition.
- **CHECK SMV** sign, reflectors and warning lights for proper operation and visibility behind unit.
- **CHECK** that your driving vision is not impaired by tractor, cab, or implement while seated in tractor seat.
- **ADJUST** your operating position, mirrors, and implement transport for clear vision for traveling and traffic conditions.

PREPARE IMPLEMENT FOR TRANSPORTING OR TOWING:

- Store Boom and Mower in transport positions and engage transport locks if equipped.

DETERMINE STOPPING CHARACTERISTICS OF TRACTOR AND IMPLEMENT FOR TRANSPORTING OR TOWING:

BRAKING TESTS:

- Stopping distance with implement attached may increase
- Observe **STOPPING** distances increases with increased speeds.
- **DETERMINE** the maximum safe transport speed that does not exceed 20 mph.
- Reduce travel speed in wet or icy roads, stopping distances increase.

DETERMINE MAXIMUM TURING SPEED BEFORE OPERATING ON ROADS OR UNEVEN GROUND:

- **TEST** equipment in slowly increasing speed in turns to determine it can be operated at higher speeds.
- **USE REDUCED** turning speeds in sharp turns to avoid equipment turning over.

WHEN TOWING OR TRANSPORTING EQUIPMENT:

- Always **WEAR SEAT BELT** when operating or transporting mower.
- **USE** low speeds to avoid overturn with raised wings.
- **USE** low speeds and gradual steering on curves, hills, rough or uneven surfaces and on wet roads.
- **TURN ON** tractor **FLASHING WARNING LIGHTS**.
- **ALLOW** clearance for implement swing while turning.

KEEP raised boom mower 10 feet or greater distance from all power lines and overhead obstructions. ***PN THBM-01***

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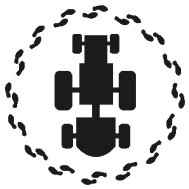
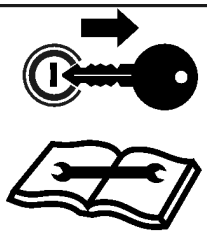
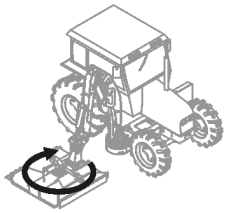
HAZARDS WITH MAINTENANCE OF IMPLEMENT

				
Periodically inspect all moving parts, lubricate drivelines, and tighten all fasteners	Lower mower head to ground or block up before servicing	Stop engine remove key before conducting maintenance	Set mower head securely on the ground before servicing blades	Thrown Objects Hazard Ensure blades rotate clockwise viewed from above mower head

⚠WARNING **AVOID SERIOUS INJURY OR DEATH FROM COMPONENT FAILURE BY KEEPING IMPLEMENT IN GOOD OPERATING CONDITION IN PERFORMING PROPER SERVICE, REPAIRS AND MAINTENANCE.**

BEFORE PERFORMING SERVICE, REPAIRS AND MAINTENANCE ON THE IMPLEMENT:

- **STOP ENGINE AND PTO**, engage parking brake, lower implement, allow all moving parts to stop and remove key before dismounting from tractor.
- **PLACE** implement on ground or securely block up raised equipment. Use large blocks on soft or wet soil.
- **PUSH** and **PULL** Remote Hydraulic Cylinder lever to relieve hydraulic pressure.
- **DISCONNECT Pump solenoid valve or PTO driveline connection before servicing mower head**.
- **WEAR SAFETY GLASSES, PROTECTIVE GLOVES** and follow **SAFETY PROCEDURES** when performing service, repairs and maintenance on the implement:
- Always **WEAR** protective **GLOVES** when handling blades, knives, cutting edges or worn component with sharp edges.
- Always **WEAR GLOVES** and **SAFETY GLASSES** when servicing hot components
- **AVOID CONTACT** with hot hydraulic oil tanks, pumps, motors, valves and hose connection surfaces.
- **SECURELY** support or **BLOCK UP** raised implement, framework and lifted components before working underneath equipment.
- **FOLLOW INSTRUCTIONS** in maintenance section when replacing hydraulic cylinders to prevent component falling.
- **STOP** any implement movements and **SHUT-OFF TRACTOR** engine before doing any work procedures.
- **USE** ladder or raised stands to reach high equipment areas inaccess ble from ground.
- **ENSURE** good footing by standing on solid flat surfaces when getting on implement to perform work.
- **FOLLOW** manufacturer's instructions in handling oils, solvents, cleansers, and other chemical agents.
- **DO NOT** change any factory-set hydraulic calibrations to avoid component or equipment failures.
- **DO NOT** modify or alter implement, functions or components.
- **DO NOT WELD** or repair rotating mower components. These may cause vibrations and component failures being thrown from mower.

PERFORM SERVICE, REPAIRS, LUBRICATION AND MAINTENANCE OUTLINED IN IMPLEMENT MAINTENANCE SECTION:

- **INSPECT** for loose fasteners, worn or broken parts, leaky or loose fittings, missing or broken cotter keys and washers on pins, and all moving parts for wear.
- **REPLACE** any worn or broken parts with authorized service parts.
- Inspect mower blade spindle to ensure bearing preload. If loose repair before operating.
- **LUBRICATE** unit as specified by lubrication schedule
- **NEVER** lubricate, adjust or remove material while it is running or in motion.
- **TORQUE** all bolts and nuts as specified.

BLADE INSPECTION:

- Inspect blade carrier and blades daily.
- Check blade and blade carrier BOLT TORQUE daily. Loose bolts can cause blade or blade bolt failures.
- REPLACE, bent, damage, cracked and broken blades immediately with new blades.
- **AVOID** blade failures and thrown broken blades. **DO NOT** straighten, weld, or weld hard-facing blades.

SAFETY SHIELDS, GUARDS AND SAFETY DEVICES INSPECTION:

- **KEEP** all Deflectors, Chain Guards, Steel Guards, Gearbox Shields, and PTO integral shields, Bands, Side Skirts and Skid Shoes in place and in good condition.
- **REPLACE** any missing, broken or worn safety shields, guards and safety devices.
- Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.
- Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. ***PN HMBM-01***

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PARTS INFORMATION

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Terrain King mowers use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drivetrain components, and bearings. These parts are made and tested to Terrain King specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of “will fit” parts may reduce mower performance, void mower warranties, and present a safety hazard. Use genuine Terrain King mower parts for economy and safety. (SPTK-1)

SEE YOUR TERRAIN KING DEALER

Decal Location

NOTE: *Terrain King supplies safety decals on this product to promote safe operation. Damage to the decals may occur while in shipping, use, or reconditioning. Terrain King cares about the safety of its customers, operators, and bystanders, and will replace the safety decals on this product in the field, free of charge (Some shipping and handling charges may apply). Contact your Terrain King dealer to order replacement decals.*

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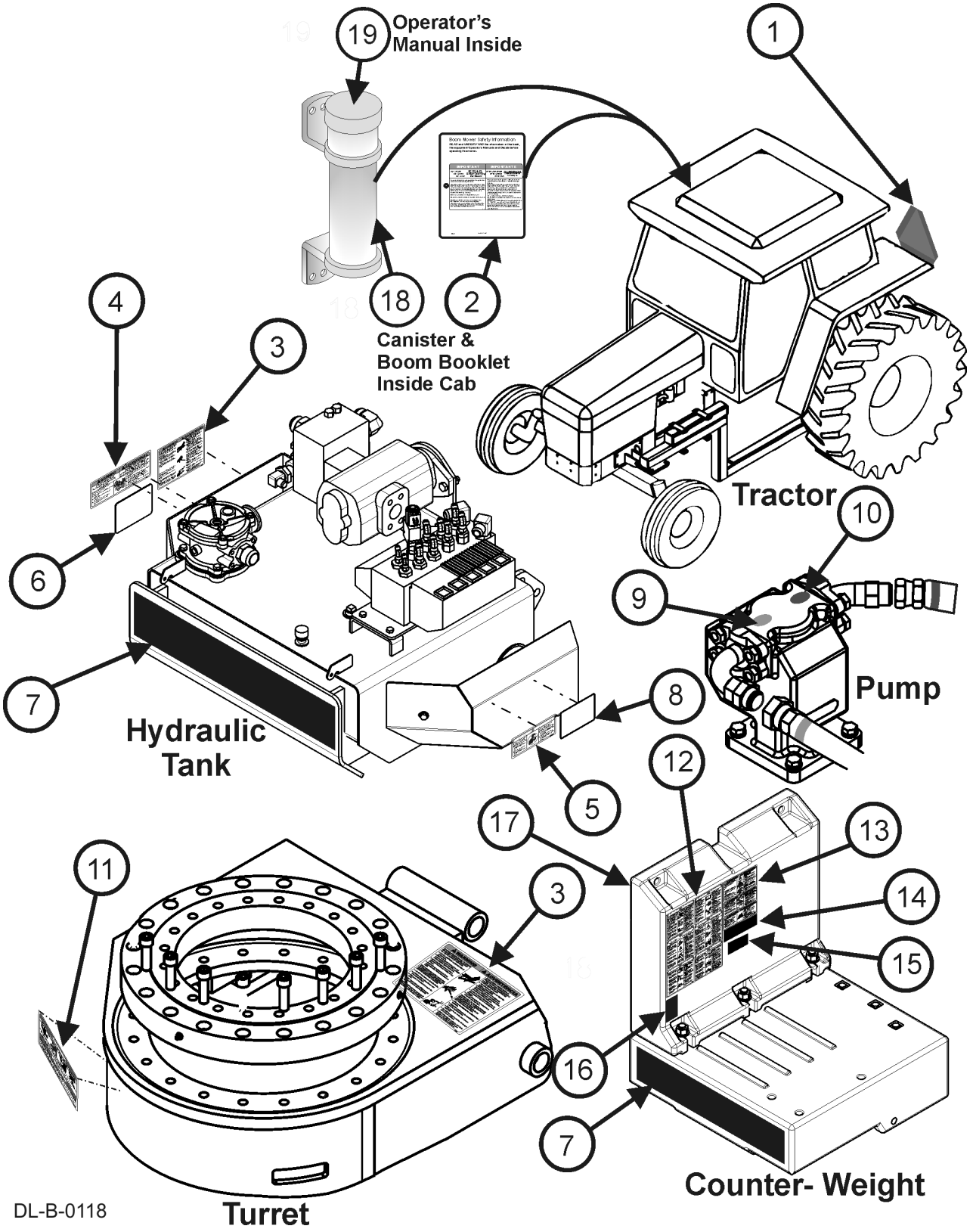

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ITEM	PART NO.	QTY.	TYPE	DESCRIPTION
1.	03200347	(1)	REFLECT	SMV
2.	D770	1	INSTRUCT	Boom Mower Safety Booklet
3.	D617	2	DANGER	Hydraulic Oil Hazard
4.	D625	1	WARNING	Pressurized Tank
5.	D627	1	IMPORTANT	Avoid Electrical Damage
6.	02982828	1	ATTENTION	Correct Hydraulic Fluid
7.	30002988385	2	LOGO	Terrain King Logo
8.	02983409	1	INSTRUCT	Hose Connection
9.	D644	1	INSTRUCT	Blue Dot Decal
10.	D645	1	INSTRUCT	RED Dot Decal
11.	D628	1	DANGER	Crushing Hazard
12.	D616	1	DANGER	Multi-Hazard
13.	D618	1	WARNING	Boom Multi-Hazard
14.	D635	1	WARNING	Operate at 540 RPM
15.	D659	1	INSTRUCT	Lube Chart
16.	1458392	1	REFLECT	Red Reflector
17.	1458393	1	REFLECT	Yellow Reflector
18.	00776031	1	----------	Manual Canister
19.	37002988395	1	----------	KB1800 & KB2200 Ops Manual

( ) Furnished by the tractor manufacturer

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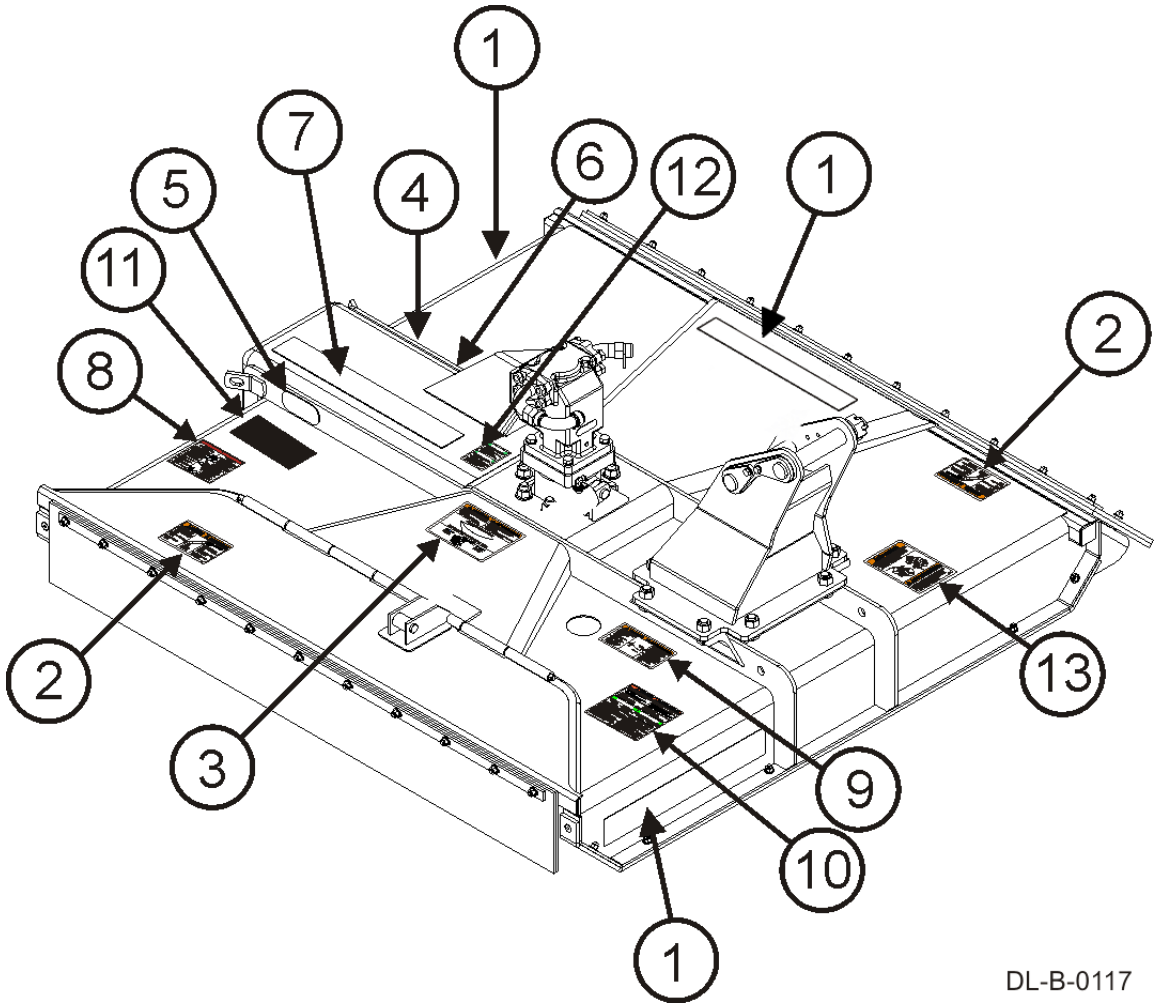

DL-B-0117

ITEM	PART NO.	QTY.	LEVEL	DESCRIPTION
1.	30002988385	3	LOGO	Terrain King Logo
2.	D626	2	WARNING	Thrown Object Hazard
3.	D619	1	WARNING	Blade Rotation
4.	2738332	1	REFLECT	Red Reflector
5.	2738333	1	REFLECT	Yellow Reflector
6.	02988384	NFS	SERIAL NUM	Serial Number Plate
7.	30002990082	1	LOGO	60” Rotary
8.	D622	1	DANGER	Blades,Thrown Objects
9.	D620	1	WARNING	Replace Blades in Pairs
10.	D678	1	WARNING	Use Genuine Parts
11.	D679	1	INSTRUCT	Lube Chart
12.	D621	1	IMPORTANT	Lube Spindle Every 40 hrs
13.	D637	1	WARNING	Disconnect Hydraulic Solenoid

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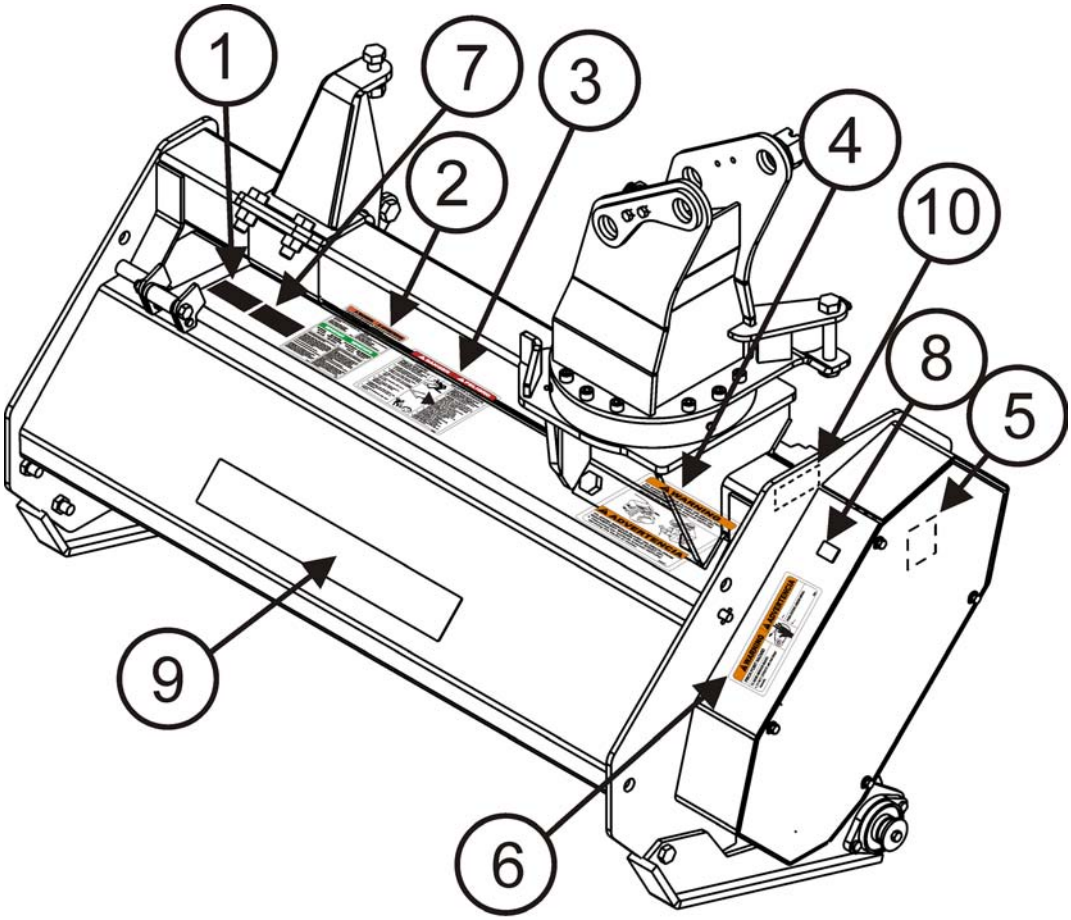

DL-B-0119

ITEM	PART NO.	QTY.	LEVEL	DESCRIPTION
1.	D661	1	INSTRUCT	Lube Chart
2.	D678	1	WARNING	Use Genuine Parts
3.	D622	1	DANGER	Thrown Objects Safety Shields
4.	D637	1	WARNING	Disconnect Hydraulic Solenoid
5.	D646	1	WARNING	Shield and Guards
6.	D641	1	WARNING	Belt Shield
7.	000108	1	INSTRUCT	Flail Operation
8.	000678	1	INSTRUCT	Grease Fitting Inside
9.	30002990083	1	LOGO	Flail Head
10.		nfs	SERIAL NUM	Flail Axe Serial Number

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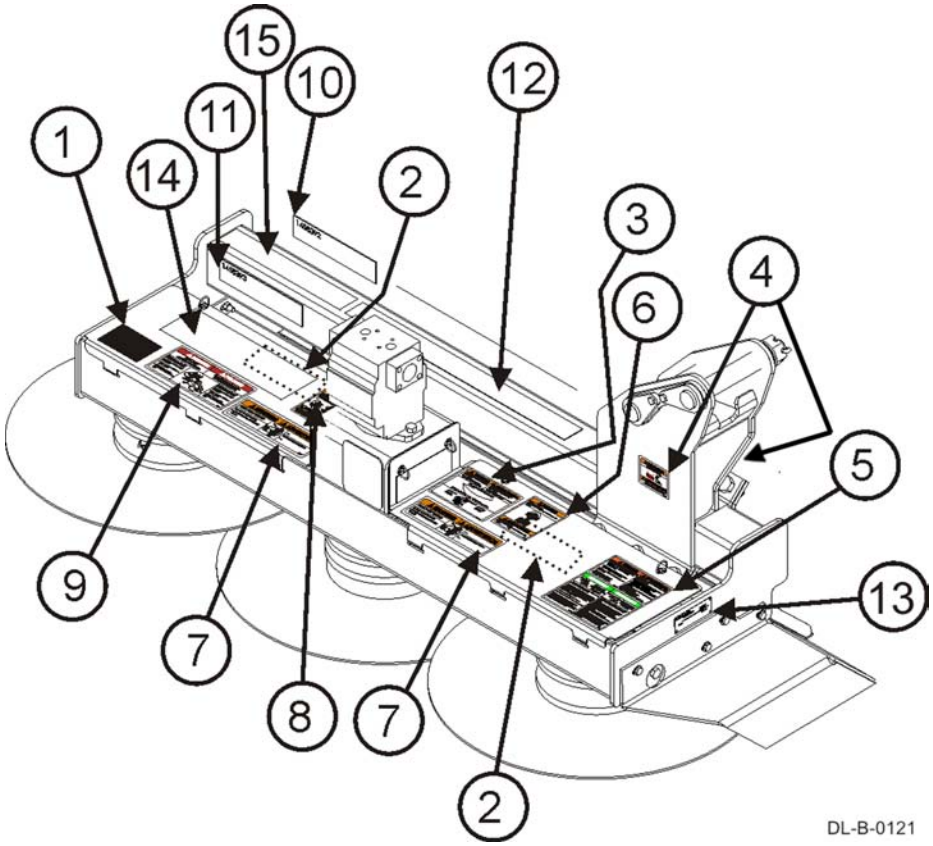
SAFETY



ITEM	PART NO.	QTY.	TYPE	DESCRIPTION
1.	D660	1	INSTRUCT	Lube Location
2.	D646	2	DANGER	Guard Missing
3.	D619	1	WARNING	Blade Rotation
4.	D623	1	WARNING	Pinch Point Hazard
5.	D678	1	WARNING	Use Genuine Parts
6.	D638	1	WARNING	Hearing Loss
7.	D641	1	WARNING	Belt Shield
8.	D637	1	WARNING	Disconnect Hydraulic Solenoid
9.	D640	1	DANGER	Amputation Hazard
10.	1458392	1	REFLECT	Red Reflector
11.	1458393	1	REFLECT	Yellow Reflector
12.	02975516	1	INSTRUCT	No Hitch Post Here
13.	nfs	1	SERIAL NUM	Serial Plate
14.	30002990084	1	LOGO	Logo Buzzbar
15.	30002988385	1	LOGO	Terrain King Logo

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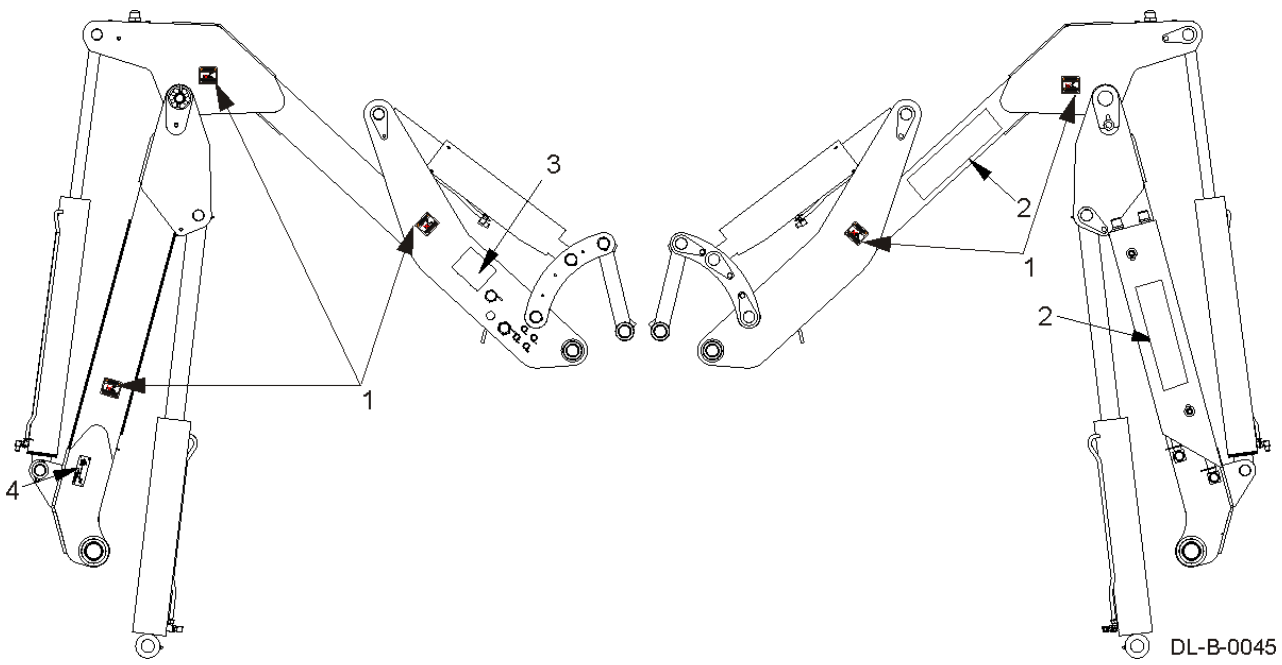

ITEM	PART NO.	QTY.	DESCRIPTION
1.	30002962764	6	Warning, Pinch Points
2.	30002988386	2	Name Logo, KB1800
.	30002988387	2	Name Logo, KB2200
3.	30002987987	1	Hose Connection
4.	30002988384	NFS	Serial Number Plate

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Decal Description

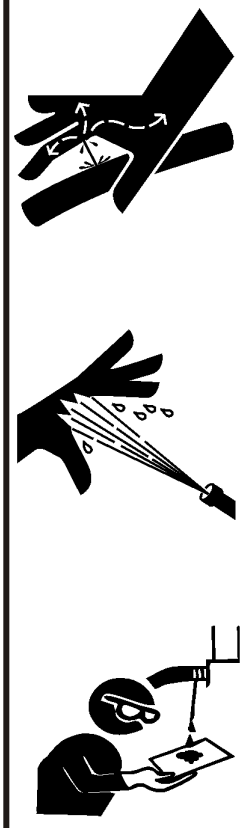
⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH FROM HIGH PRESSURE HYDRAULIC OIL LEAKS PENETRATING SKIN:

- DO NOT OPERATE equipment with oil or fuel leaks.
- KEEP all hydraulic hoses, lines and connections in good condition and tight before applying system pressure.
- Relieve hydraulic pressure before disconnecting lines or working on the system.
- REMOVE and replace hose if you suspect it leaks. Have dealer test it for leaks.

HIGH PRESSURE FLUID LEAKS CAN BE INVISIBLE. WHEN CHECKING FOR HYDRAULIC LEAKS AND WORKING AROUND HYDRAULIC SYSTEMS:

- DO NOT use hands to check for leaks.
- ALWAYS WEAR safety glasses and impenetrable gloves.
- USE paper or cardboard to search for leaks.
- KEEP hands and body AWAY from pin holes and nozzles ejecting hydraulic fluid.
- Hydraulic fluid may cause gangrene if not surgically removed immediately by a doctor familiar with this form of injury.



D617

⚠ ADVERTENCIA

PARA EVITAR LESION SERIA O MUERTE POR LA PENETRACION A LA PIEL POR ALTA PRESION DE ACEITE HYDRÁULICO:

- NO OPERE el equipo con fugus de aceite o combustible.
- MANTENGA todas las mangueras hydráulicas, líneas y conexiones en buenas condiciones y apretadas antes de aplicar presión al sistema.
- Releve la presión hidráulica antes de desconectar las líneas o trabajar en le sistema.
- QUITE y reemplace la manguera si sospecha que hay fuga.

FUGAS DE ALTA PRESIÓN PUEDEN SER INVISIBLE. AL VERIFICAR POR FUGAS HIDRAULICAS Y TRABAJANDO ALREDEDOR DE SISTEMAS HIDRAULICOS:

- NO use las manos para verificar si hay agujeros.
- SIEMPRE USE lentes de seguridad y guantes impenetrables.
- USE papel o un cartón para buscar agujeros.
- NO USE las manos o partes del cuerpo para buscar agujeros.
- MANTEGA manos y cuerpo LEJOS de agujeros de alfiler y boquillas que expulsan el liquido hidráulicos.

⚠ WARNING

PRESSURIZED TANK
OIL FILLER CAP IS PRESSURE RELIEF CAP

TO AVOID SERIOUS INJURY AND DEATH FROM HOT OIL:

- STAY AWAY from hot oil that may spray out of tank.
- ALLOW oil to cool down BEFORE removing cap .
- SLOWLY remove cap to relieve pressure BEFORE removing completely.

⚠ ADVERTENCIA

TANQUE PRESURIZADO
LA TAPA DE DEPOSITO DE PETROLEO ES LA TAPA DE ALIVIO DE PRESIÓN.

PARA EVITAR LESION SERIA O MUERTE POR ESCALDADURA DE PETROLEO CALIENTE:

- MATENGASE ALEJADO del aciete caliente que puede salir a presión del tanque.
- Remueva LENTAMENTE la tapa para relevar la presión ANTES de remover la tapa completamente.
- PERMITA que el petróleo se enfríe ANTES de remover la tapa.

D625

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DANGER
CRUSHING HAZARD AND PINCH POINTS
TO AVOID SERIOUS INJURY OR DEATH:
● KEEP AWAY from moving machinery parts that can pinch, crush or fall.
PELIGRO
RIESGOS DE APLASTAMIENTO Y PUNTOS DE PELLIZCO
PARA EVITAR LESION SERIA O MUERTE:
● MANTENGASE ALEJADO de piezas moviles de la maquina que pueden peliscar, aplastar o caerse.
D628

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⚠ DANGER — KEEP Bystanders AWAY THROWN OBJECTS HAZARD

Mower can throw objects up to 300 feet. TO AVOID SERIOUS INJURY OR DEATH to operator or bystanders:

- STOP mowing if bystanders or traffic come within 300 feet.
- DO NOT OPERATE with thrown object shielding removed.
- KEEP thrown object shielding in place and in good condition during operation.
- INSPECT area for potential mower thrown object hazards before mowing.
- Remove and AVOID objects such as wire, cable, metal objects and all other foreign material.
- DO NOT ALLOW blades to contact solid objects like wire, rocks, posts, curbs or guard rails.

⚠ PELIGRO — MANTENGA las personas presentes LEJOS DE OBJETOS LANZADOS

Cortacésped puede lanzar objetos hasta 300 pies. PARA EVITAR LESION SERIA O MUERTE a operadores y personas presentes:

- Pare de segar si personas o traffico se acercan entre 300 pies del area de segar.
- NO OPERE sin la cubierta para objetos lanzados.
- MANTENGA la cubierta para objeto lanzado en su lugar y en buenas condiciones.
- INSPECCIONE el área por si hay riesgos potenciales de objetos lanzados antes de segar.
- REMUEVA y EVITE objectos come alambre, cable, objetos de metal y todo otro material extranjero.
- NO DEJE que las cuchillas contacten los objetos sólidos como alambre, rocas, postes, borde de banqueta, o barandillas.

D616_1

⚠ DANGER

TO AVOID SERIOUS INJURY OR DEATH:

- READ AND UNDERSTAND the provided Operator's Manuals, safety signs and information decals for tractor and implement before operating equipment.
- CONTACT DEALER immediately if you do not have manuals.
- CONTACT DEALER to explain any instructions not fully understood.
- KNOW HOW to stop tractor and equipment quickly for an emergency.
- ALWAYS WEAR safety glasses.
- WEAR hard hat, safety shoes and gloves for protection when operating equipment.

⚠ PELIGRO

PARA EVITAR LESION SERIA O MUERTE:

- LEA Y ENTIENDA el Manual de Operador proporcionado, signos de seguridad y calcomanias informativas para el tractor y implemento antes de operar el equipo.
- CONTACTE AL DISTRIBUIDOR imediatamente si no tiene los manuales.
- CONTACTE AL DISTRIBUIDOR para que le explique cualquier instrucciónes que no entiende completamente.
- ENTIENDA COMO parar el tractor y equipo rapidamente en caso de emergencia.
- SIEMPRE USE lentes de seguridad.
- USE un casco, zaptos de seguridad y guantes para su protection cuando esta operando el equipo.

D616_2

⚠ DANGER — Crushing Hazard Injury or Death

TO AVOID SERIOUS INJURY OR DEATH:

- USE tractor equipped with Roll Over Protective Structure ("ROPS") including roll bar and seat belt. Keep roll bar in raised position.
- KEEP ALERT and AVOID hitting stumps, holes, ruts, and uneven terrain.
- ALWAYS BUCKLE UP seat belt.
- CLEAR AREA of bystanders before raising or lowering mower.
- IMPLEMENT CAN FALL from hydraulic failure or accidental operation of controls.
- BLOCK UP and securely support equipment before putting hands, feet or body under raised equipment or lifted components.

⚠ PELIGRO — Riesgo de Aplastamiento Lesion o Muerte

PARA EVITAR LESION SERIA O MUERTE:

- USE un tractor equipado con Estructura Protectora Contra Vuelcos ("ROPS") incluyendo barra antivuelco y cinturon de seguridad. Mantenga la barra antivuelco en la posicion elevada.
- MANTENGASE ALERTO y EVITE golpes en troncos, agujeros, pozos o terreno en desnivel.
- SIEMPRE ABROCHE el cinturón de seguridad.
- DESOCUPE EL AREA de pesonas presentes antes de bajar o subir la unidad.
- EL IMPLEMENTO SE PUEDE CAER por el mal funcionamiento hidraulico o operacion accidental de los controles.
- BLOQUEE y soporte con seguridad el equipo antes de poner manos, pies o cuerpo debajo del equipo o componentes levantados.

D616_3

⚠ DANGER — Run Over Hazard Injury or Death

TO AVOID SERIOUS INJURY OR DEATH:

- ALWAYS USE Roll Over Protective Structure ("ROPS") including ROLL BAR and SEAT BELT equipped tractors for mowing operations.
- ONLY START Tractor while seated in the operator's seat.
- DO NOT MOUNT or DISMOUNT tractor in motion.
- NEVER ALLOW riders on tractor or implement.
- NEVER ALLOW children to operate or ride on tractor or implement.
- KEEP BYSTANDERS CLEAR of area before moving tractor or implement.
- STOP ENGINE AND PTO, engage parking brake, lower implement, allow all moving parts to stop and remove key before dismounting from tractor.

⚠ PELIGRO — Riesgo de Atropello Lesión o Muerte

PARA EVITAR LESION SERIA O MUERTE:

- SIEMPRE USE tractors equipados con una Estructura Protectora Contra Vuelcos ("ROPS") incluyendo BARRA ANTIVUELCOS y CINTURON DE SEGURIDAD al segar.
- SOLO ENCIENDA el tractor mientras que esta sentado en el asiento del operador.
- NO MONTE o DESMONTE el tractor en movimiento.
- NUNCA PERMITA pasajeros en el tractor o implemento.
- NUNCA PERMITA que niños operen o se monten en el tractor o implemento.
- MANTENGA LAS PERSONAS PRESENTES LEJOS de la area antes de mover el tractor o implemento.
- PARE EL MOTOR Y PTO, aplique el freno de mano, baje el implemento, y deje que todas las partes movil paren completamente, y quite la llave antes de desmontar el tractor.

D616_4

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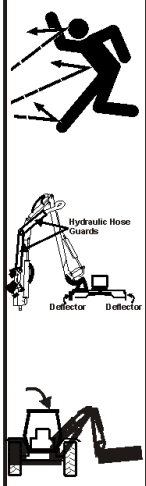
⚠ DANGER

TO AVOID SERIOUS INJURY OR DEATH FROM THROWN OBJECTS:

- DO NOT OPERATE with guards or thrown object shielding missing.
- Thrown objects shielding, hydraulic hose guards and hydraulic hose sleeves are SUBJECT TO WEAR.
- REPAIR OR REPLACE guards and thrown object shielding if damaged, broken or missing.
- ALWAYS REPLACE GUARDS that have been removed for service or maintenance.
- DO NOT operate without operator protective shielding or cab.



⚠ PELIGRO

PARA EVITAR LESION SERIA O MUERTE POR ACIETE HIDRÁULICO O OBJETOS LANZADOS:

- NO OPERE sin las cubiertas de objetos lanzados o si faltan las mayas protectora hidraulicas.
- Las cubiertas de objetos lanzados, las mayas protectoras hydraulicas, y las mangas de mangeras hidraulicas son SUJETAS AL DESGASTE.
- REPARE O REEMPLACE cubiertas si son dañadas, quebradas, o si faltan.
- SIEMPRE REEMPLACE cubiertas que han sido quitadas para servicio o mantenimiento.
- NO opere sin las cubiertas protectivas del operador o cabina.

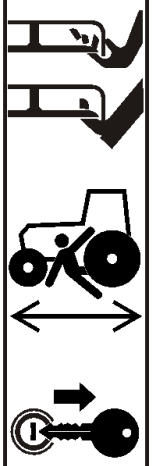
D616_5

⚠ DANGER

Entanglement Hazard

TO AVOID SERIOUS INJURY OR DEATH:

- DO NOT operate without guards in place and in good condition.
- STAY AWAY and KEEP hands, feet and body AWAY from rotating blades, drivelines and parts that continue to move after power shut-off. WAIT until all moving elements have stopped.
- STOP, LOOK and LISTEN for rotating motion before approaching implement.
- STOP ENGINE and PTO, engage parking brake, lower mower to ground, allow all moving parts to stop and remove key before dismounting from tractor.



D616_6 D616

⚠ PELIGRO

Riesgo de Enredamiento

PARA EVITAR LESION SERIA O MUERTE:

- NO opere sin la cubierta protectora en su lugar y en buen estado.
- MANTENGASE ALEJADO y MANTENGA manos, pies y cuerpo LEJOS de las cuchillas girando, líneas de conducción, y partes que siguen moviendose depués de que el poder es apagado. ESPERE hasta que todos los elementos móviles se han parado.
- DETENGASE,OBSERVE y ESCUCHE por el movimiento de rotación antes de acercarse al implemento.
- PARE EL MOTOR y el PTO, active el freno de mano, baje el implemento, y permita que todas las partes móviles se paren y quite la llave antes de desmontar el tractor.

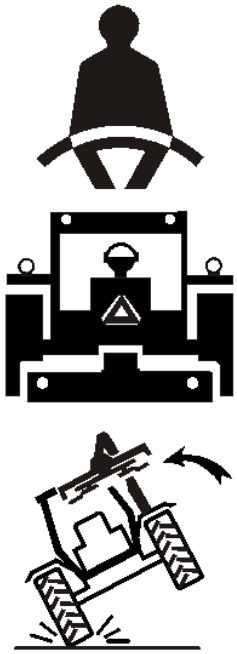
⚠ WARNING

TO AVOID SERIOUS INJURY AND DEATH DURING TRANSPORTATION:

- ALWAYS BUCKLE UP seat belt.
- PLACE boom securely in Transport Rest and turn off master switch.
- CHECK SMV sign, reflectors and warning lights for visibility behind unit.
- TURN ON tractor flashing warning lights.

TO AVOID LOSS OF TRANSPORTATION CONTROL:

- DO NOT travel at speeds over 20 mph.
- REDUCE SPEED on inclines, in turns and in poor weather conditions.



⚠ ADVERTENCIA

PARA EVITAR LESION SERIA Y MUERTE DURANTE LA TRANSPORTACION:

- SIEMPRE ABROCHE el cinturón de seguridad.
- COLOQUE el brazo serguramente en transporte y apague el interruptor principal.
- VERIFIQUE QUE EL SMV, reflectors, y luces intermitentes de advertencia pueden ser vistos claramente por detras de la unidad.
- PRIENDA las luces intermitentes de advertencia.

PARA EVITAR LA PÉRDIDA DEL CONTROL DE TRANSPORTACION:

- NO remolque en velocidades arriba de 20 mph.
- REDUZCA LA VELOCIDAD en inclinas, en vueltas y en pobres condiciones de remolque.

D618_1

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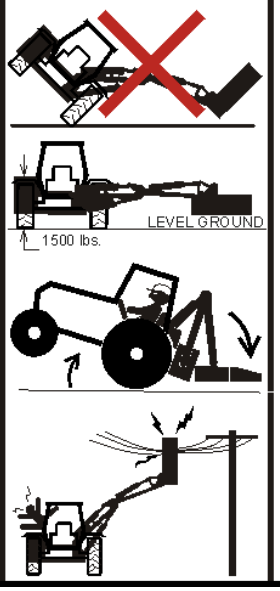
⚠ WARNING

TO AVOID SERIOUS INJURY AND DEATH DURING OPERATION:

- DO NOT lift implement while on steep slopes.
- KEEP AWAY from soft ditch banks and holes.
- ALWAYS MAINTAIN 1500 pounds of contact between wheels and surface. Widen wheel tread or add weight if needed. (see Operator's Manual)
- ALWAYS MAINTAIN 20% of tractor weight on front wheels.
- DO NOT start or accelerate suddenly.
- KEEP mower AT LEAST 10 FEET AWAY from electric lines and pipe lines.



⚠ ADVERTENCIA

PARA EVITAR LESION SERIA Y MUERTE DURANTE LA OPERACION:

- NO levante el implemento al estar en pendientes pronunciados..
- MANTENGASE ALEJADO DE agujeros y zanjas blandas..
- SIEMPRE MANTENGA 1500 libras de contacto entre las llantas y tierra. Amplie el rodamiento de la llanta o agreguele peso si es necesario. (Vea el Manual de Operadores)
- MANTENGA SIEMPRE el 20% de peso del tractor en las ruedas delanteras.
- NO comience ni acelere repentínamente.
- MANTENGA la unidad, por lo menos 10 pies de distancia de las líneas electricas y líneas de tubo.

D618_2

⚠ WARNING

TO AVOID EQUIPMENT AND GRASS FIRES:

- CLEAR AWAY grass or debris from hydraulic lines, circuits and decks.

TO AVOID FIRE IGNITION:

- DO NOT ALLOW BLADES TO CONTACT rocks, metal or solid objects.
- DO NOT ALLOW OIL TO SPRAY on hot equipment or components.

D618

⚠ ADVERTENCIA

PARA EVITAR INCIENDOS DE EQUIPO Y CÉSPED:

- QUITE el césped y escombros de las líneas hidraulicas, circuito, y las cubiertas.

PARA EVITAR INCIENDOS POR IGNICIÓN:

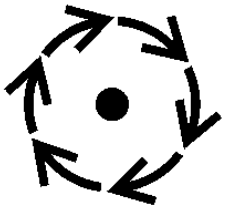
- NO PERMITA QUE LAS CUCHILLAS CONTACTEN piedras, metal o objectos solidos.
- NO PERMITA QUE EL ACEITE CAIGA en el equipo o componentes calientes.

⚠ WARNING

OPERATE THIS MACHINE AT

540 RPM

TRACTOR PTO SPEED ONLY. Overspeeding PTO may cause component failure resulting in bodily injury. TRACTOR PTO ROTATION: CLOCKWISE



⚠ ADVERTENCIA

OPERE ESTA MÁQUINA A

540 RPM

SOLAMENTE OPERE ESTA MÁQUINA A LA VELOCIDAD DE PTO (TOMA DE FUERZA O BARRA GITATORIA) DEL TRACTOR DE 540 RPM. El sobre exceso de velocidad de PTO puede causar el fracaso de componente que resultara en lesión. ROTACION DE PTO DEL TRACTOR: EN SENTIDO HORARIO

D635

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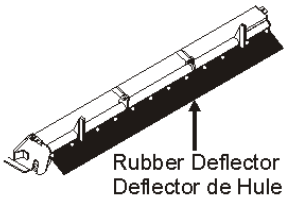
⚠ DANGER

THROWN OBJECT HAZARD

TO AVOID SERIOUS INJURY OR DEATH:
DO NOT OPERATE if Thrown Object Shielding is damaged or missing.

- Maintain Rubber Deflectors in good condition.
- Inspect Rubber Deflectors frequently.



⚠ PELIGRO

RIESGO DE OBJETOS LANZADOS

PARA EVITAR LESION SERIA O MUERTE:
NO OPERE si la Cubierta de Objetos Lanzados esta dañada o falta.

- Mantenga Los Deflectores de Hule en buenas condiciones.
- Inspeccione Los Deflectores de Hule con frecuencia.

D626

⚠ WARNING

TO AVOID SERIOUS INJURY AND DEATH FROM THROWN OBJECTS:

- MAKE CERTAIN blades rotate the correct direction.

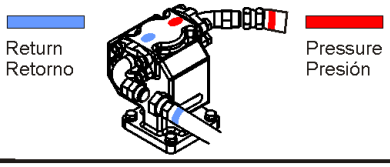
⚠ ADVERTENCIA

PARA EVITAR LESION SERIA O MUERTE POR OBJETOS LANZADOS:

- ASEGURE que las cuchillas giran en la dirección correcta.

BLADE ROTATION

ROTACIÓN DE CUCHILLAS



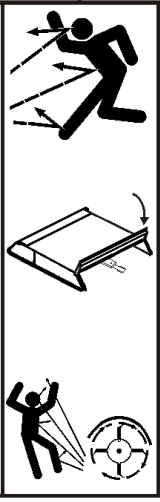
D619

⚠ DANGER

KEEP AWAY THROWN OBJECTS HAZARD

Mower can throw objects up to 300 feet. TO AVOID SERIOUS INJURY OR DEATH to operator or bystanders:

- CLOSE MOWER DOOR and STOP operating if bystanders or traffic come within 300 feet.
- KEEP door fully closed when cutting grass and weeds.
- OPEN door ONLY to cut large brush. Close door immediately after.
- DO NOT operate with door removed.
- KEEP door in place and in good condition during operation.
- Deflectors are SUBJECT TO WEAR. Replace if worn or damaged.
- ALWAYS transport with door closed.



⚠ PELIGRO

CONSÉRVESE LEJOS OBJETOS LANZADOS

Cortacésped puede lanzar objetos hasta 300 pies. PARA EVITAR LESION SERIA O MUERTE a operadores y personas presentes:

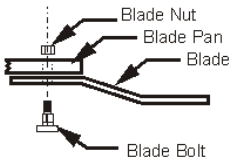
- CIERRE LA PUERTA DE LA UNIDAD y PARE de operar si las personas presentes o el trafico se acercan entre 300 pies de la unidad.
- MANTENGA la puerta completamente cerrada al cortar zacate o hierbas.
- ABRA SOLO la puerta para cortar ramas grandes. Cierre la puerta inmediatamente después.
- NO opere con la puerta quitada.
- MANTENGA la puerta en su lugar y en buen estado durante la operacion.
- Los Deflectores son SUJETOS AL DESGASTE. Reemplace si estan desgastados o dañados.
- SIEMPRE transporte con la puerta cerrada.

D622

⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH FROM BLADE ATTACHMENT FAILURE:

- Torque blade bolt to 600 ft lbs.
- ALWAYS replace blades in pairs.
- ALWAYS replace blades with new bolts and nuts.



⚠ ADVERTENCIA

PARA EVITAR LESION SERIA O MUERTE POR EL FALLO DEL ACOPLAMIENTO DE LAS CUCHILLAS:

- Siempre reemplace las cuchillas en pares.
- Apriete los tornillos a torsión de 600 p/lbs.
- SIEMPRE reemplace las cuchillas con tornillos y tuercas nuevas.

D620

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⚠ WARNING

Non-genuine parts can fail catastrophically.
TO AVOID SERIOUS INJURY OR DEATH:

- ONLY use genuine TERRAIN KING replacement parts.
- Non-genuine parts can fail creating hazardous conditions for operator and bystanders.

Contact local dealer or TERRAIN KING about repair parts at:

1502 E. Walnut, Seguin, TX 78155.
Customer Service: 830-372-9595.
Email: oemparts@terrainking.com

D678_1

⚠ ADVERTENCIA

Partes que no son auténticas pueden fallar catastróficamente.
PARA EVITAR LESION SERIA O MUERTE:

- Use SOLAMENTE las partes de reemplazo autenticas de TERRAIN KING.
- Partes que no son autenticas pueden fallar y causar conidiciones peligrosas para el operador y personas presentes.

Contacte a su distribuidor local o TERRAIN KING sobre partes de reparo a:

1502 E. Walnut, Seguin, TX 78155.
Servicio al Cliente: 830-372-9595.
Correo Electronico: oemparts@terrainking.com

IMPORTANT

BE AWARE
BE ALERT
BE ALIVE

BE TRAINED
Before Operating this Mower

To prevent serious injury to yourself and/or bystanders, be trained in Safe Mowing Practices.

Alamo Group Companies as well as AEM and FEMA provide training material that is critical for your Safety and the Safety of others when operating this equipment. Make these Safety Procedures an important part of every workday.

Read and understand the Operator's Manual.

Do not let untrained individuals operate this equipment.

Contact your Dealer, AEM (www.aem.org), FEMA (314-878-2304, www.FarmEquip.org), or Alamo Group (www.Alamo-Group.com) for information on training material or courses that provide training in Safer Operating Practices for Mowers.

D678_2

IMPORTANTE

ESTE CONSCIENTE
ESTE ALERTO
ESTE VIVO

SEA ENTRENADO
Antes de Funsionar Cortacésped

Para prevenir lesiónes graves a usted y/o personas presentes, sea entrendado en la Practica de Segar Seguro.
Companias de Alamo Group asi como AEM y FEMA proporcionan material para entrenar que es esencial para su seguridad y la seguridad de otros al operar este equipo. Haga estos procedimientos de seguridad una parte importante de su dia de trabajo.

Lea y entienda el Manual de Operadores.

No permita que personas sin entrenamiento funcionen este equipo.

Contacte a su distribuidor, AEM (www.aem.org), FEMA (314-878-2304, www.FarmEquip.org), o Alamo Group (www.Alamo-Group.com) para la informacion sobre el material de entrenamiento o cursos que ofrecen el entenamiento de Prácticas de Operación para Cortadoras.

D678

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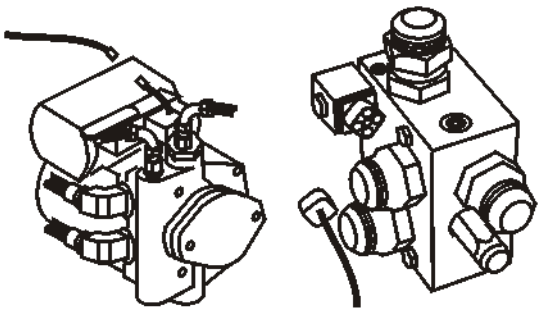
WARNING

TO AVOID SERIOUS INJURY OR DEATH FROM INADVERTENT MOWER HEAD START UP:

- Disconnect the hydraulic solenoid BEFORE servicing the tractor or mower.



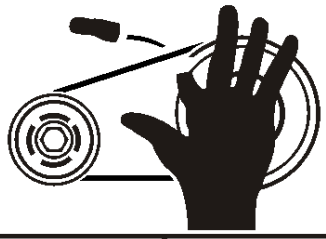
ADVERTENCIA

PARA EVITAR LESION SERIA O LA MUERTE AL COMIENZO INVOLUNTARIO DE LA CABEZA CORTADORA:

- Desconecte el solenoide hidráulico ANTES DEL servicio al tractor o el cortacéspedes.

D637

DANGER **PELIGRO**



D646

GUARD MISSING DO NOT OPERATE	FALTA EL CUBIERTA NO OPERE

DANGER **PELIGRO**

WARNING **ADVERTENCIA**

PINCH POINT HAZARD

TO AVOID SERIOUS INJURY:

- DO NOT OPERATE with Belt Shield removed.

RIESGO DE PUNTOS DE PELLIZCO

PARA EVITAR LESION SERIA:

- NO OPERE con la cubierta de correa ausente.

D641

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⚠ WARNING

TO AVOID HEARING LOSS:

- ALWAYS WEAR hearing protection within 100 yards of this machine.

⚠ ADVERTENCIA

PARA EVITAR LA PÉRDIDA DE OÍDO::

- USE SIEMPRE la protección de oído a 100 yardas de esta máquina.

D638

⚠ WARNING

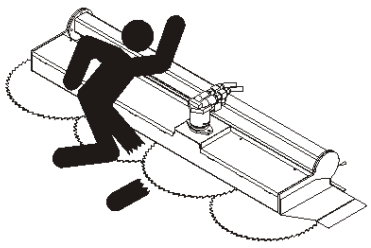
PINCH POINTS

⚠ ADVERTENCIA

PUNTO DE PELLIZCO

D623

⚠ DANGER	⚠ PELIGRO
KEEP AWAY AMPUTATION HAZARD	MANTENGASE ALEJADO RIESGO DE AMPUTACIÓN:
Rotating Blades can cut off body limbs or appendages. **TO AVOID SERIOUS INJURY OR DEATH:** • KEEP all persons AWAY from rotating blades. • SHUT OFF tractor engine BEFORE approaching machine head.	**Las Cuchillas Giratorias pueden cortar miembros de cuerpo o extremidades.** **PARA EVITAR LESION SERIA O MUERTE:** • MANTENGA todas las personas LEJOS de la las cuchillas giratorias.. • APAGE el motor del tractor ANTES de acercarse a la cabeza cortadora.



D640

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Federal Laws and Regulations

This section is intended to explain in broad terms the concept and effect of federal laws and regulations concerning employer and employee equipment operators. This section is not intended as a legal interpretation of the law and should not be considered as such.

Employer-Employee Operator Regulations

U.S. Public Law 91-596 (The Williams-Steiger Occupational and Health Act of 1970) OSHA

This Act Seeks:

"...to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources..."

DUTIES

Sec. 5 (a) Each employer-

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA Training Requirements

Title 29, Code of Federal Regulations Part 1928.57(a)(6). **www.osha.gov**

Operator instructions. At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee who operates an agricultural tractor and implements in the safe operating practices and servicing of equipment with which they are or will be involved, and of any other practices dictated by the work environment.

Keep all guards in place when the machine is in operation;

Permit no riders on equipment

Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment.

Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine.

Employer Responsibilities:

To ensure employee safety during Tractor and Implement operation, it is the employer's responsibility to:

1. Train the employee in the proper and safe operation of the Tractor and Implement.
2. Require that the employee read and fully understand the Tractor and Implement Operator's manual.
3. Permit only qualified and properly trained employees to operate the Tractor and Implement.
4. Maintain the Tractor and Implement in a safe operational condition and maintain all shields and guards on the equipment.
5. Ensure the Tractor is equipped with a functional ROPS and seat belt and require that the employee operator securely fasten the safety belt and operate with the ROPS in the raised position at all times.
6. Forbid the employee operator to carry additional riders on the Tractor or Implement.
7. Provide the required tools to maintain the Tractor and Implement in a good safe working condition and provide the necessary support devices to secure the equipment safely while performing repairs and service.
8. Require that the employee operator stop operation if bystanders or passersby come within 300 feet.

Child Labor Under 16 Years of Age

Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102.)

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INTRODUCTION SECTION

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INTRODUCTION

This Terrain King Boom Mower is designed with care and built with quality materials by skilled workers. Proper assembly, maintenance, and operating practices, as described in this manual, will help the owner/operator get years of satisfactory service from the machine.

The purpose of this manual is to familiarize, instruct, and train. The Assembly Section instructs the owner/operator in the correct assembly of the Mower using standard and optional equipment. The Parts Listing section is designed to familiarize the owner/operator with replaceable parts on the Mower. This section provides exploded assembly drawings of each mower component illustrating each piece and the corresponding part number.

Careful use and timely service saves extensive repairs and costly downtime losses. The Operation and Maintenance Sections of the manual train the owner/operator how to work the Mower correctly and attend to appropriate maintenance. The Trouble Shooting Guide helps diagnose difficulties with mower and offers solution to the problems.

Safety is of primary importance to the owner/operator and to the manufacturer. The first section of this manual includes a list of Safety Messages, that, if followed, will help protect the operator and bystanders from injury or death. Many of the Safety Messages will be repeated throughout the manual. The owner/operator/dealer should know these Safety Messages before assembly and be aware of the hazards of operating this mower during assembly, use, and maintenance. The Safety Alert Symbol combined with a Signal Word, as seen below, is intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this machine.

⚠ DANGER Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.

⚠ WARNING Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.

⚠ CAUTION Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

Important Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

NOTE: *Identifies points of particular interest for more efficient and convenient operation or repair.*

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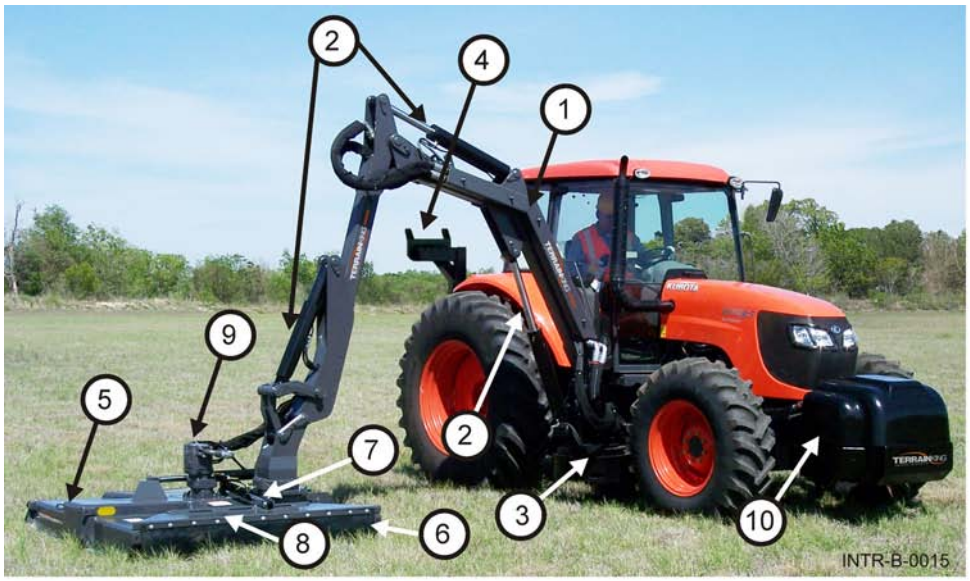

1 Boom Arm
2 Boom Arm Cylinders
3 Turret Frame
4 Transport Rest
5 Rotary Head
6 Rubber Deflector
7 Door Cylinder
8 Rotary Head Door
9 Motor
10 Hydraulic Tanks

Your KB1800/2200 Boom is designed for heavy-duty cutting in limited access areas such as highway, park, and rural roadsides, overhead growth, ditches, levees, and other such grass and limb control uses in generally hard-to-reach areas. Your KB1800/2200 Boom can be equipped with a variety of cutting heads designed for specific cutting needs.

Features

The Rotary Head: Rotary unit, 60" wide cut, up to 5" vegetation, front safety gate.

The Flail Head: Flail unit, 48" wide cut, up to 4" vegetation.

The Saw Blade Head: Saw Blade unit, 90” wide cut, up to 6” diameter tree limbs.

DIRECTION

Throughout this Manual front and rear, left and right are determined by the normal direction of travel, the same as driving an automobile.

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INTRODUCTION

Attention Owner/Operator

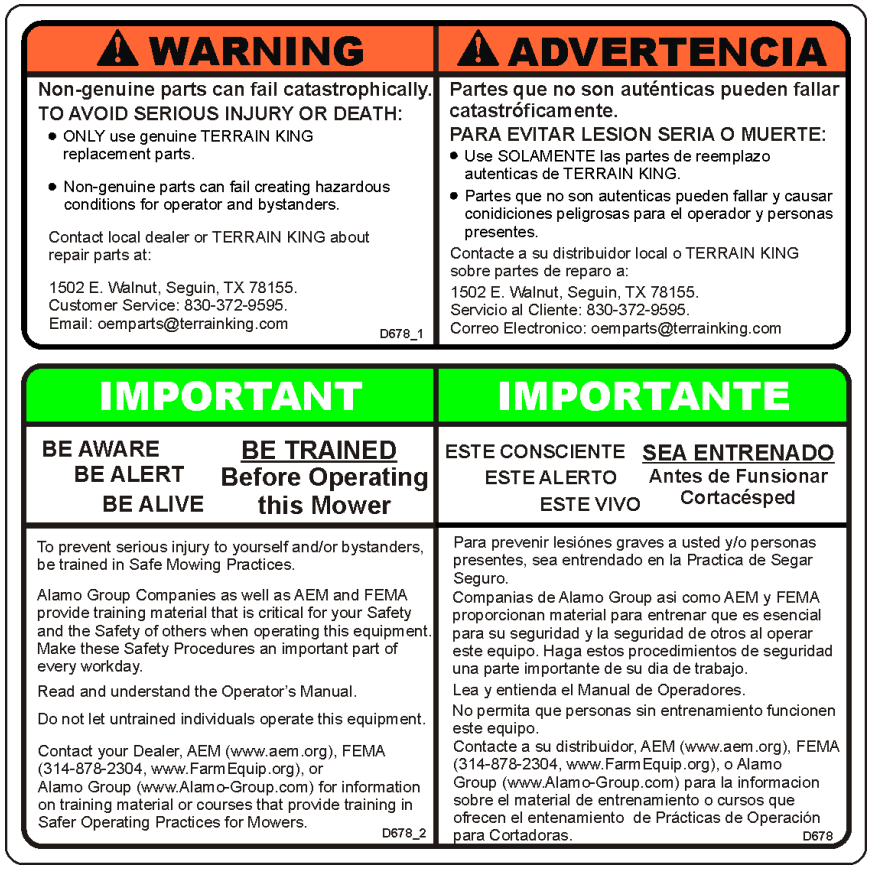
BEFORE OPERATING THIS MACHINE:

1. Carefully read the Operator's Manual, completely understand the Safety Messages and instructions, and know how to operate correctly both the tractor and implement.

2. Fill out the Warranty Card in full. Be sure to answer all questions, including the Serial Number of the implement. Mail within 30 days of delivery date of this implement.

NOTE: Warranties are honored only if completed "Owner Registration and Warranty" forms are received by Terrain King within thirty days of delivery of the implement.

3. Record the Model and Serial Numbers on the Warranty page at the front of the Operator's Manual. Keep this as part of the permanent maintenance file for the implement.



⚠ WARNING

Non-genuine parts can fail catastrophically.
TO AVOID SERIOUS INJURY OR DEATH:

- ONLY use genuine TERRAIN KING replacement parts.
- Non-genuine parts can fail creating hazardous conditions for operator and bystanders.

Contact local dealer or TERRAIN KING about repair parts at:

1502 E. Walnut, Seguin, TX 78155.
Customer Service: 830-372-9595.
Email: oemparts@terrainking.com

D678_1

⚠ ADVERTENCIA

Partes que no son auténticas pueden fallar catastróficamente.
PARA EVITAR LESION SERIA O MUERTE:

- Use SOLAMENTE las partes de reemplazo autenticas de TERRAIN KING.
- Partes que no son autenticas pueden fallar y causar conidiciones peligrosas para el operador y personas presentes.

Contacte a su distribuidor local o TERRAIN KING sobre partes de reparo a:

1502 E. Walnut, Seguin, TX 78155.
Servicio al Cliente: 830-372-9595.
Correo Electronico: oemparts@terrainking.com

IMPORTANT

BE AWARE
BE ALERT
BE ALIVE

BE TRAINED
Before Operating this Mower

To prevent serious injury to yourself and/or bystanders, be trained in Safe Mowing Practices.

Alamo Group Companies as well as AEM and FEMA provide training material that is critical for your Safety and the Safety of others when operating this equipment. Make these Safety Procedures an important part of every workday.

Read and understand the Operator's Manual.

Do not let untrained individuals operate this equipment.

Contact your Dealer, AEM (www.aem.org), FEMA (314-878-2304, www.FarmEquip.org), or Alamo Group (www.Alamo-Group.com) for information on training material or courses that provide training in Safer Operating Practices for Mowers.

D678_2

IMPORTANTE

ESTE CONSCIENTE
ESTE ALERTO
ESTE VIVO

SEA ENTRENADO
Antes de Funsionar Cortacésped

Para prevenir lesiónes graves a usted y/o personas presentes, sea entrendado en la Practica de Segar Seguro.
Companias de Alamo Group asi como AEM y FEMA proporcionan material para entrenar que es esencial para su seguridad y la seguridad de otros al operar este equipo. Haga estos procedimientos de seguridad una parte importante de su dia de trabajo.

Lea y entienda el Manual de Operadores.

No permita que personas sin entrenamiento funcionen este equipo.
Contacte a su distribuidor, AEM (www.aem.org), FEMA (314-878-2304, www.FarmEquip.org), o Alamo Group (www.Alamo-Group.com) para la informacion sobre el material de entrenamiento o cursos que ofrecen el entenamiento de Prácticas de Operación para Cortadoras.

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TERRAIN KING
LIMITED WARRANTY

1. LIMITED WARRANTIES

1.01. Terrain King ("Manufacturer") warrants for one year from the purchase date to the original non-commercial, governmental, or municipal Purchaser and warrants for six months to the original commercial or industrial purchaser ("Purchaser", as applicable) that the goods Purchased are free from defects in material or workmanship.

1.02. Manufacturer will replace for the Purchaser any part or parts found, upon examination at one of its factories, to be defective under normal use and service due to defects in material or workmanship during the applicable warranty period.

1.03. This limited warranty does not apply to any part of the goods which has been subjected to improper or abnormal use, negligence, alteration, modification, or accident, damaged due to lack of maintenance or use of wrong fuel, oil, or lubricants, or which has served its normal life. This limited warranty does not apply to any part of any internal combustion engine, or expendable items such as blades, shields, guards, or pneumatic tires except as specifically found in your operator's manual.

1.04. No employee, agent, dealer, or other person is authorized to give any warranties of any nature on behalf of Manufacturer.

2. REMEDIES AND PROCEDURES.

2.01. This limited warranty is not effective unless the purchaser returns the registration and warranty form to Manufacturer within 30 days of purchase.

2.02. Purchaser claims must be made in writing to the authorized dealer ("dealer") from whom Purchaser purchased the goods or an approved authorized dealer ("dealer") within 30 days after Purchaser learns of the facts on which the claim is based.

2.03. Purchaser is responsible for returning the goods in question to the dealer.

2.04. If after examining the goods and/or parts in question, Manufacturer finds them to be defective under normal use and service due to defects in material or workmanship, Manufacturer will:

(a) Repair or replace the defective goods or part(s) or

(b) Reimburse Purchaser for the cost of the part(s) and reasonable labor charges (as determined by Manufacturer) if Purchaser paid for the repair and/or replacement prior to the final determination of applicability of the warranty by Manufacturer. The choice of remedy shall belong to Manufacturer.

2.05. Purchaser is responsible for any labor charges exceeding a reasonable amount as determined by Manufacturer and for returning the goods to the dealer, whether or not the claim is approved. Purchaser is responsible for the transportation cost for the goods or part(s) from the dealer to the designated factory.

3. LIMITATION OF LIABILITY.

3.01. MANUFACTURER DISCLAIMS ANY EXPRESS (EXCEPT AS SET FORTH HEREIN) AND IMPLIED WARRANTIES WITH RESPECT TO THE GOODS INCLUDING, BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

3.02. 3.02. MANUFACTURER MAKES NO WARRANTY AS TO THE DESIGN, CAPABILITY, CAPACITY, OR SUITABILITY FOR USE OF THE GOODS.

3.03. 3.03. EXCEPT AS PROVIDED HEREIN, MANUFACTURER SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO PURCHASER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS, OR DAMAGE CAUSED OR ALLEGED TO BE CAUSED DIRECTLY OR INDIRECTLY BY THE GOODS INCLUDING, BUT NOT LIMITED TO, ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES RESULTING FROM THE USE OR OPERATION OF THE GOODS OR ANY BREACH OF THIS WARRANTY. NOT WITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, MANUFACTURER'S LIABILITY HEREUNDER FOR DAMAGES INCURRED BY PURCHASER OR OTHERS SHALL NOT EXCEED THE PRICE OF THE GOODS.

3.04. 3.04. NO ACTION ARISING OUT OF ANY CLAIMED BREACH OF THIS WARRANTY OR TRANSACTIONS UNDER THIS WARRANTY MAY BE BROUGHT MORE THAN TWO (2) YEARS AFTER THE CAUSE OF ACTION HAS OCCURRED.

4. MISCELLANEOUS.

4.01. 4.01. Proper venue for any lawsuits arising from or related to this limited warranty shall be only in Guadalupe County, Texas.

4.02. 4.02. Manufacturer may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.

4.03. 4.03. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.

4.04. 4.04. Applicable law may provide rights and benefits to Purchaser in addition to those provided herein.

KEEP FOR YOUR RECORDS

ATTENTION: Purchaser should fill in the blanks below for his reference when buying repair parts and/or for proper machine identification when applying for warranty.

Terrain King Implement Model _____ Serial Number _____

Date Purchased _____ Dealer _____

ATTENTION:

READ YOUR OPERATOR'S MANUAL

TERRAIN KING
1502 East Walnut St.
Seguin, Texas 78156
800-882-5756

TERRAINKING™
Engineering Practical Solutions™

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OPERATION SECTION

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OPERATION

TERRAIN KING KB1800/2200 BOOM MOWERS OPERATING INSTRUCTIONS

Terrain King Booms are manufactured with quality material by skilled workers. The KB1800/2200 Booms is designed to attach to a tractor and operate various heads for a wide range of vegetative maintenance applications. The boom and heads are equipped with safety warning decals, protective deflectors, shields, and other safety features to provide operator and passerby protection, however, no shielding is 100% accurate. ALL safety equipment and safety warning decals must be maintained on the unit in good operational condition at all times.

It is the operator's responsibility to be knowledgeable of all potential operating hazards and to take every reasonable precaution to ensure oneself, others, animals, and property are not injured or damaged by the mower, tractor, or a thrown object. Do not operate the mower if passersby, pets, livestock, or property are within 300 feet of the unit unless:

- **All THROWN OBJECT SHIELDING** including, Front, Rear Deflectors and Skid Shoes are in place and in good condition when mowing.
- Mower is adjusted to be close and parallel to ground without exposing blades.
- **MOWING AREA** has been inspected and foreign materials and debris have been removed.
- **PASSERSBY** are inside enclosed vehicle.

This section of the Operator's Manual is designed to familiarize, instruct, and educate safe and proper mower use to the operator. Pictures contained in this section are intended to be used as a visual aid to assist in explaining the operation of a rotary mower. Some pictures may show shields removed for purposes of clarity. NEVER OPERATE this implement without all shields in place and in good operational condition. The operator must be familiar with the mower and tractor operation and all associated safety practices before operating the mower and tractor. Proper operation of the mower, as detailed in this manual, will help ensure years of safe and satisfactory use of the mower

IMPORTANT: To avoid mower damage, retorque all bolts after the first 10 hours of operation. Retighten blade carrier retaining nut on gearbox lower shafts to 600 ft. lbs.

READ AND UNDERSTAND THE ENTIRE OPERATING INSTRUCTIONS AND SAFETY SECTION OF THIS MANUAL AND THE TRACTOR MANUAL BEFORE ATTEMPTING TO USE THE TRACTOR AND IMPLEMENT. If you do not understand any of the instructions, contact your nearest authorized dealer for a full explanation. Pay close attention to all safety signs and safety messages contained in this manual and those affixed to the implement and tractor. *OPS-U- 0001*

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2)

PELIGRO Si no lee ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)

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1.OPERATOR REQUIREMENTS

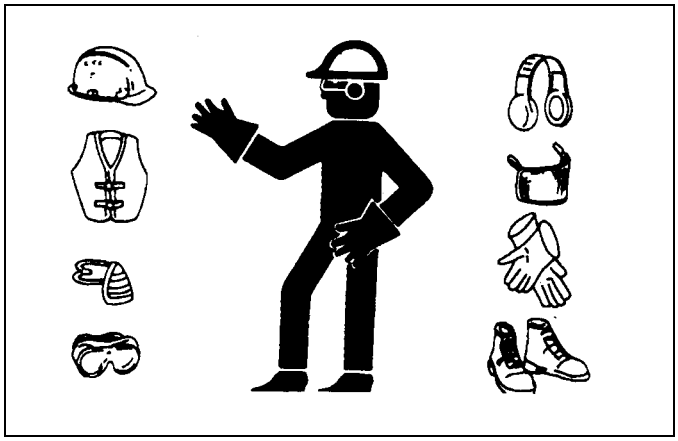
Safe operation of the unit is the responsibility of a qualified operator. A qualified operator has read and understands the implement and tractor Operator's Manuals and is experienced in implement and tractor operation and all associated safety practices. In addition to the safety messages contained in this manual, safety signs are affixed to the implement and tractor. If any part of the operation and safe use of this equipment is not completely understood, consult an authorized dealer for a complete explanation.

If the operator cannot read the manuals for themselves or does not completely understand the operation of the equipment, it is the responsibility of the supervisor to read and explain the manuals, safety practices, and operating instructions to the operator.

Safe operation of equipment requires that the operator wear approved Personal Protective Equipment (PPE) for the job conditions when attaching, operating, servicing, and repairing the equipment. PPE is designed to provide operator protection and includes the following safety wear:

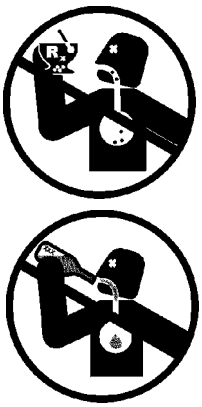
PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Always Wear Safety Glasses
- Hard Hat
- Steel Toe Safety Footwear
- Gloves
- Hearing Protection
- Close Fitting Clothing
- Respirator or Filter Mask (depends on operating conditions) *OPS-U- 0002*



⚠ DANGER

DO NOT use drugs or alcohol immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. NEVER knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27)



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OPERATION

2.TRACTOR REQUIREMENTS

In addition to tractor horsepower and size required to operate the boom unit, the tractor must also be properly equipped to provide operator protection, to alert approaching vehicle drivers of the tractor's presence, and to ensure tractor stability when mowing with the boom fully extended.

Tractor Requirements and Capabilities

- Certified approved Roll-Over Protective Structure (ROPS) or ROPS cab and seat belt.
- Operator Protection ..... Tractor must be equipped with protective structure such as operator cage or lexan window to protect operator from thrown object and falling objects
- Tractor Safety Devices ..... Slow Moving Vehicle (SMV) emblem, lighting,
- Tractor Ballast ..... As required to maintain at least 1500 lbs. on left rear tire

2.1 ROPS and Seat Belt

The tractor must be equipped with a Roll-Over-Protective-Structure (ROPS) (tractor cab or roll-bar) and seat belt to protect the operator from falling off the tractor, especially during a roll over where the driver could be crushed and killed. Only operate the tractor with the ROPS in the raised position and seat belt fastened. Tractor models not equipped with a ROPS and seat belt should have these life saving features installed by an authorized dealer. *OPS-U- 0003*

⚠WARNING Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Serious injury or even death could result from falling off the tractor--particularly during a turnover when the operator could be pinned under the ROPS. (SG-7)

2.2 Operator Thrown Object Protection

The tractor must be equipped with protective equipment to shield the operator from falling and thrown objects. For cab tractors, the tractor must be equipped with an operator safety screen on its right side or the right side windows must be fitted with a shatter resistant safety window. For non-cab tractors, the tractor must be equipped with a ROPS and operator protective safety cage that provides protection to the right and above the operator seat. DO NOT remove the ROPS from non-cab tractors to equip a safety cage.

OPS-B- 0001_TK

⚠DANGER Never operate the Tractor and Mower Unit without an OPS (Operators Protective Structure) or Cab to prevent injury from objects thrown from ground or from overhead trimming. Stop mowing if workers or passersby are within 300 feet. (SBM-9)

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2.3 Tractor Lighting and SMV Emblem

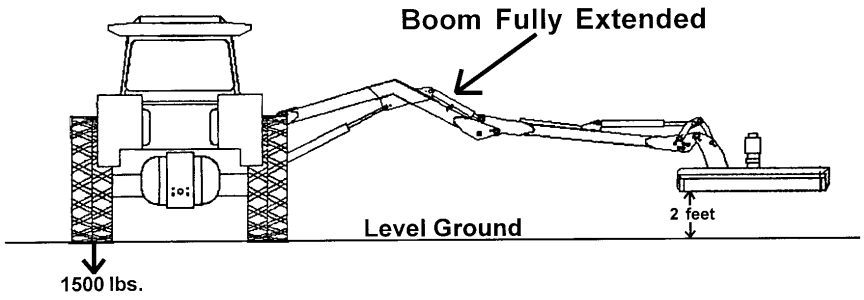
If the tractor will be operated near or traveled on a public roadway it must be equipped with proper warning lighting and a Slow Moving Vehicle (SMV) emblem which are clearly visible from the rear of the unit. Most tractor's have different settings for operating and transporting lighting. Refer to the tractor operator's manual for using the tractor's light switch and operating the turn signals.

OPS-B- 0017_TK

2.4 Tractor Ballast

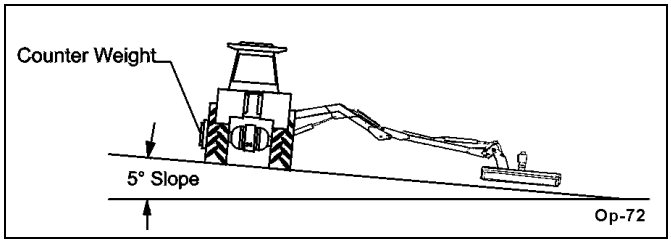
To ensure tractor stability when operating on flat surfaces the left rear tractor tire MUST exert a minimum down force (weight) of 1500 lbs. on the ground when the tractor is on level ground, its boom is fully extended and the mower head is horizontal and two feet above the ground. A tractor that does not meet this criteria is DANGEROUS and should not be operated as upset of the unit can occur resulting in possible serious injury and property damage. NOTE: All factory mounted units are tested and meet the ballast requirement before shipment; further testing is not required unless the unit is operated in a manner other than what is considered standard operating conditions.

For additional information on properly ballasting the tractor, refer to Terrain King Boom and Mower Stability Pamphlet P/N #30002959010



Op-71

Operation of the unit on slopes greater than 5°(9% grade) is not recommended under any circumstances. On a tractor with a 96" outside to outside tire spread, a 5°(9% grade) slope occurs when one rear tractor tire is about 8" lower than the other rear tire. *OPS-B- 0018_TK*



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OPERATION

3.GETTING ON AND OFF THE TRACTOR

Before getting onto the tractor, the operator must read and completely understand the implement and tractor operator manuals. If any part of either manual is not completely understood, consult an authorized Terrain King dealer for a complete explanation. *OPS-U- 0007_TK*

⚠WARNING Do not mount or dismount the Tractor while the tractor is moving. Mount the Tractor only when the Tractor and all moving parts are completely stopped. (SG-12)

3.1 Boarding the Tractor

Use both hands and equipped handrails and steps for support when boarding the tractor. Never use control levers for support when mounting the tractor. Seat yourself in the operator's seat and secure the seat belt around you.

Never allow passengers to ride on the tractor or attached equipment. Riders can easily fall off and be seriously injured or killed from falling off and being ran over. It is the operator's responsibility to forbid all extra riders at all times. *OPS-U- 0008*

⚠DANGER Never allow children to operate, ride on, or come close to the Tractor or Implement. Persons that do not have a motor vehicle license should not operate this equipment. (SG-44)

⚠DANGER Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)

⚠WARNING Do not mount or dismount the Tractor while the tractor is moving. Mount the Tractor only when the Tractor and all moving parts are completely stopped. (SG-12)

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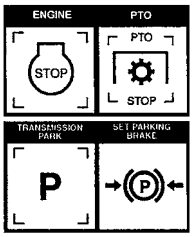
3.2 Dismounting the Tractor

Before dismounting the tractor, idle the tractor engine down, disengage the head and retract the boom arm to the transport position. Park the tractor on a level surface, place the transmission in neutral and set the parking brake. Shut down the tractor engine, remove the key, and wait for all motion to come to a complete stop before exiting the operator's seat. NEVER leave the seat until the tractor, its engine, and mower head movement have come to a complete stop.

Use hand rails and extra steps when exiting the tractor. Be careful of your step and use extra caution when mud, ice, snow, and other matter has accumulated on the steps and handrails. Never rush or jump off the tractor. *OPS-B- 0002*

⚠ DANGER BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



4.STARTING THE TRACTOR

The operator must have a complete understanding of the placement, function, and operational use of all tractor controls before starting the tractor. Review the tractor operator's manual and consult an authorized dealer for tractor operation instructions if needed.

Essential Tractor Controls:

- Locate the ignition key/switch
- Locate the engine shut off control
- Locate the hydraulic control levers
- Locate the light control lever
- Locate the brake pedals and clutch
- Locate the PTO control
- Locate the 3 point hitch control lever
- Locate the boom operating controls (joystick or valve bank)

Before starting the tractor ensure the following:

- Conduct all pre-start operation inspection and service according to the tractor operator's manual.
- Make sure all guards, shields, and other safety devices are securely in place.
- The parking brake is on.
- The tractor transmission levers are in park or neutral.
- The boom operating controls are in the neutral and off position.
- The PTO control lever is disengaged.
- The hydraulic remote control levers are in the neutral position.

Refer to the tractor owner's manual for tractor starting procedures. Only start the tractor while seated and belted in the tractor operator's seat. Never bypass the ignition switch by short circuiting the starter solenoid. After the tractor engine is running, avoid accidental contact with the tractor transmission to prevent sudden and unexpected tractor movement. *OPS-B- 0003*

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OPERATION

DANGER Never run the Tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health. (SG-23)

DANGER Start tractor only when properly seated in the Tractor seat. Starting a tractor in gear can result in injury or death. Read the Tractor operators manual for proper starting instructions. (SG-13)

5.CONNECTING ATTACHING HEADS TO THE BOOM

1. Start by using a hoist to lower the boom down to the head. Align the Boom with the Head Hitch Post, insert the upper hitch pin through the Dipper end of the boom and the Head Upper Hitch Post. Attach with washer, nut, and cotter pin.

2. Then align the lower linkage of the Boom and insert the lower hitch pin through hitch post. Attach with nut and bolt.

3. Finally make sure all bolts, nuts, and pins are tightened to recommended torque.

OPS-B- 0004_TK

WARNING Avoid contact with hot surfaces including hydraulic oil tanks, pumps, motors, valves and hose connections. Relieve hydraulic pressure before performing maintenance or repairs. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-34)

WARNING Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use Cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)

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6.PRE-OPERATION INSPECTION AND SERVICE

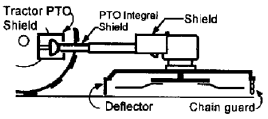
Before each use, a pre-operation inspection and service of the implement and tractor must be performed. This includes routine maintenance and scheduled lubrication, inspecting that all safety devices are equipped and functional, and performing needed repairs. DO NOT operate the unit if the pre-operation inspection reveals any condition affecting safe operation. Perform repairs and replacement of damaged and missing parts as soon as noticed. By performing a thorough pre-operation inspection and service, valuable down time and repair cost can be avoided. *OPS-U-0029*

⚠WARNING

Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order. (SG-21)

⚠ DANGER

All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Chain Guards, Steel Guards, Gearbox Shields, PTO integral shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SGM-3)



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6.1 Tractor Pre-Operation Inspection/Service

Refer to the tractor operator's manual to ensure a complete pre-operation inspection and scheduled service is performed according to the manufacturers recommendations. The following are some of the items that require daily service and inspection:

- Tire condition/air pressure
- Wheel lug bolts, and rim to clamp hardware
- Steering linkage
- PTO shield
- SMV sign is clean and visible
- Tractor's lights are clean and functional
- Tractor Seat belt is in good condition
- Tractor ROPS or Cab is in good condition
- ROPS is in the raised position
- No tractor oil leaks
- Radiator free of debris
- Engine oil level and condition
- Engine coolant level and condition
- Power brake fluid level
- Power steering fluid level
- Fuel condition and level
- Sufficient lubrication at all lube points
- Engine and Cab Air filter condition *OPS-U-0030_TK*

6.2 Boom Unit Pre-Operation Inspection and Service

Inspect and service the boom arm and head prior to operation. Damaged and/or broken parts should be repaired and/or replaced immediately. To ensure the unit is ready for operation, conduct the following:

OPS-B- 0020

⚠WARNING Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order. (SG-21)

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The operator's manual and safety signs affixed on the unit contain important instructions on the safe and proper use of the equipment. Maintain these important safety features on the implement in good condition to ensure the information is available to the operator at all times.

- Ensure the manual canister is secured to the equipment with the operator's manual inside.
- Ensure all safety signs are in place and legible. Replace missing, damaged, and illegible decals. *OPS-U- 0011*

Op-14

FRAME ASSEMBLY

- Inspect condition of mounting frame weldment.
- Inspect condition of Turret Frame Assembly.
- Ensure all bolts and screws are in position and are properly torqued.
- Ensure all pins are in place and fastened with screws.
- Ensure frame is properly mounted to tractor and hardware is propely installed and tightened. *OPS-B- 0021_TK*

WARNING Relieve hydraulic pressure prior to doing any maintenance or repair work on the Implement. Place the Mower Head on the ground or securely supported on blocks or stands, disengage the PTO, and turn off the engine. Push and pull the control Levers or Joystick several times to relieve pressure prior to starting any maintenance or repair work. (SBM-6)

WARNING Never Leave the mower unattended while the head is in the raised position. The mower could fall causing serious injury to anyone who might inadvertently be under the mower (SBM-4)

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OPERATION

BOOM ARM ASSEMBLY

- Inspect condition of each arm section weldment
- Ensure all pins are in place.
- Ensure all bolts and screws are properly installed.
- Check condition of teflon bushings at boom pivot points.
- Ensure each hydraulic cylinder is installed and retained correctly. Ensure the proper size pins are used to retain the cylinders in place and are secured properly. *OPS-B- 0022_TK*

WARNING Never attempt to lubricate, adjust, or remove material from the Implement while it is in motion or while tractor engine is running. (SG-20)

HYDRAULIC LINE INSPECTION

- Check for hydraulic leaks along hoses, cylinders and fittings. **IMPORTANT**: DO NOT use your hands to check for oil leaks. Use a piece of heavy paper or cardboard to check for hydraulic oil leaks.
- Inspect the condition of the valve weldment.
- Ensure fitting is properly connected
- Inspect condition of nylon bushings.

OPS-B- 0023_TK

WARNING Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use Cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)

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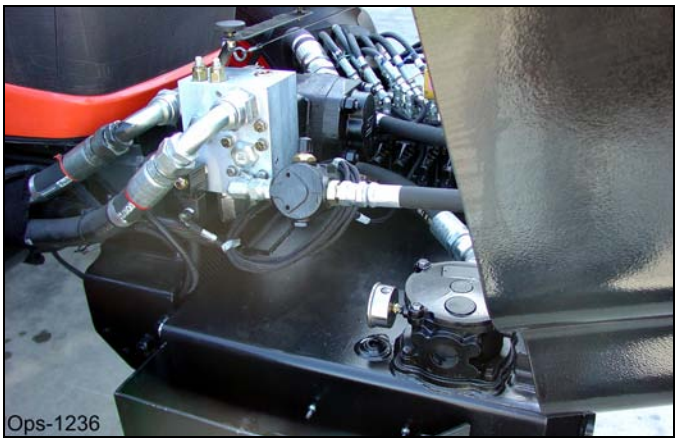
HYDRAULIC PUMP/OIL RESERVOIR

- Check oil reservoir level and oil condition. (Add specific type oil if low)
- Change hydraulic oil filter and hydraulic oil according to maintenance schedule.
- Ensure there are no oil leaks and fitting are properly connected
- Inspect overall condition of hydraulic pump.
- Inspect pump drive shaft.



Check the fluid level in the Hydraulic Tank on the Tractor, and add oil if required. As the air has been forced out of the Cylinders and Hoses, it goes into the Hydraulic Tank and reduces the volume of oil. Maintain the oil level within the sight gauge located on the side of the reservoir. Never fill the tank above the sight gauge to allow for the expansion of the oil. The tank maintains pressure after the mower has been run. *OPS-B 0024_TK*

WARNING Attention: Oil Filler Cap is also the Pressure Relief Cap. Remove cap slowly to relieve pressure before removing cap completely. Stay clear to prevent being scalded with hot oil that may spray out of the tank that is still pressurized and may cause serious injury to eyes, face, and exposed skin. (Ops-0001-MISC)

WARNING Avoid contact with hot surfaces including hydraulic oil tanks, pumps, motors, valves and hose connections. Relieve hydraulic pressure before performing maintenance or repairs. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-34)

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ROTARY HEAD INSPECTION

- Inspect blades and blade bolts for looseness and excessive wear. Rotate to 90° to make for checking easier. Replace damaged, worn, and missing blades as complete sets to maintain rotary balance.
- Ensure carrier hub nuts are tightened with the cotter pin inserted and spread.
- Ensure rubber deflectors are in position and not damaged. Replace worn, broken, and missing sections immediately.
- Ensure hydraulic lines are properly connected to the hydraulic motor. Check for hydraulic leaks along hoses and fittings. DO NOT use your hands to check for oil leaks. Use a piece of heavy paper or cardboard to check for hydraulic oil leaks.
- Inspect the condition of deck skid shoes and hardware. *OPS-B- 0025_TK*

⚠WARNING Do not put hands or feet under mower decks. Blade Contact can result in serious injury or even death. Stay away until all motion has stopped and the decks are securely blocked up. (SGM-09)

⚠ DANGER All Safety Shields, Guards and other safety devices including (but not limited to) - Deflectors, Steel Guards and Gearbox Shields must be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SSM-07)

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FLAIL HEAD INSPECTION

- Inspect blades and blade bolts for looseness and excessive wear. Rotate to 90° to make for checking easier. Replace damaged, worn, and missing blades as complete sets to maintain cuttershaft balance.
- Ensure rubber deflectors are in position and not damaged. Replace worn, broken, and missing sections immediately.
- Ensure the rollers are in good condition and rotate freely.
- Inspect that all bolts and screws are in position and are properly torqued.
- Ensure hydraulic lines are properly connected to the hydraulic motor. Check for hydraulic leaks along hoses and fittings. DO NOT use your hands to check for oil leaks. Use a piece of heavy paper or cardboard to check for hydraulic oil leaks.
- Inspect the condition of the drive belts.
- Ensure the drive belt shields are in place and in good repair.
- Remove any grass or other debris which may be wrapped around the cuttershafts ends.
- Inspect the condition of deck skid shoes and hardware. *OPS-B- 0026_KB*

Ops-1232

⚠ DANGER Do not put hands or feet under mower decks. Blade Contact can result in serious injury or even death. Stay away until all motion has stopped and the decks are securely blocked up. (SFL-2)

⚠ DANGER All Safety Shields, Guards and other safety devices including (but not limited to) - Deflectors, Steel Guards and Gearbox Shields must be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SSM-07)

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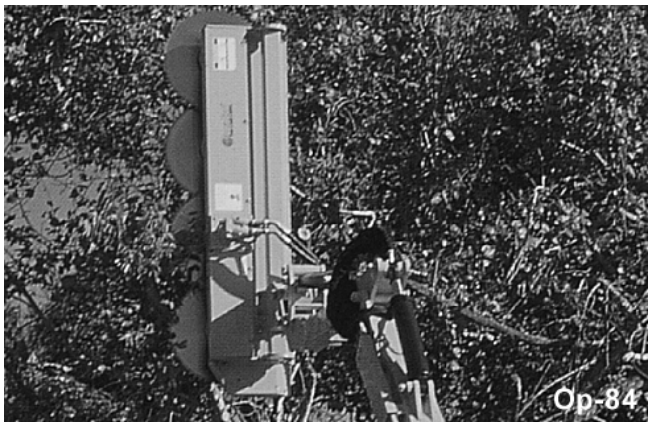
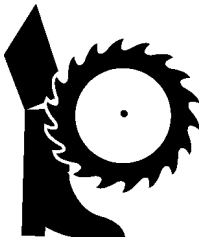
SAW BLADE HEAD INSPECTION

- Inspect the saw blades and spindle bolts for looseness and excessive wear. Make sure the unit is securely blocked up before doing maintenance. Replace damaged and worn saw blades as complete sets to maintain unit balance.
- Ensure hydraulic lines are properly connected to the hydraulic motor. Check for hydraulic leaks along hoses and fittings. DO NOT use your hands to check for oil leaks. Use a piece of heavy paper or cardboard to check for hydraulic oil leaks.
- Inspect the condition of the Micro V-belts.
- Ensure the drive belt shields are in place and in good repair. *OPS-B- 0028*



⚠WARNING Do not put hands or feet near the cutter bar. Blade contact can result in serious injury. Stay away until all motion has stopped and the mower is securely blocked up. (SBM-24)



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Boom Mower PRE-OPERATION Inspection

Mower ID#_____ Make_____

Date: _____ Shift_____

WARNING **Before conducting the inspection, make sure the tractor engine is off, all rotation has stopped and the tractor is in park with the parking brake engaged. Make sure the mower is resting on the ground or securely blocked up and all hydraulic pressure has been relieved.**

Item	Condition at Start of Shift	Specific Comments if not O.K.
The Operator's Manual is in the canister on the mower		
All safety decals are in place and legible		
The Mounting frame bolts are in place and tight		
The Boom connection bolts & pins are tight		
There are no cracks in boom,dipper arm or frame		
The Hydraulic Cylinders pins are tight		
The Hydraulic Pump hose connections are tight		
The Hydraulic Valve hose connections are tight		
The Hydraulic Valve controls function properly		
There are no leaking or damaged hoses		
The Hydraulic Oil level is full		
There is no evidence of Hydraulic leaks		
The Blades are not chipped, cracked or bent		
The Blade bolts are tight		
The Deflectors are in place and in good condition		
The Mower shields are in place and in good condition		
The Skid shoes are in good condition & tight		
There are no cracks or holes in mower deck		
The Hyd. motor mounting bolts are tight		
The mower head spindle housing is tight and lubricated		

Operator's Signature:_____

DO NOT OPERATE an UNSAFE TRACTOR or MOWER

This Inspection Form may be freely duplicated for extra copies.

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Tractor PRE-OPERATION Inspection

Mower ID#_____Make_____

Date: _____Shift_____

WARNING **Before conducting the inspection, make sure the tractor engine is off, all rotation has stopped and the tractor is in park with the parking brake engaged. Make sure the mower is resting on the ground or securely blocked up and all hydraulic pressure has been relieved.**

Item	Condition at Start of Shift	Specific Comments if not O.K.
The flashing lights function properly		
The SMV Sign is clean and visible		
The tires are in good condition with proper pressure		
The wheel lug bolts are tight & rim/clamp hardware is tight		
The tractor brakes are in good condition & parking brake		
The steering linkage is in good condition		
There are no visible oil leaks		
The hydraulic controls function properly		
The ROPS or ROPS Cab is in good condition		
The seatbelt is in place and in good condition		
The 3-point hitch is in good condition		
The drawbar pins are securely in place		
The PTO master shield is in place		
The engine oil level is full		
The brake fluid level is full		
The power steering fluid level is full		
The fuel level is adequate		
The engine coolant fluid level is full		
The radiator(Cab & A/C) & screens are free of debris		
The air filter is in good condition		

Operator's Signature:_____

DO NOT OPERATE an UNSAFE TRACTOR or MOWER

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6.3 Cutting Component Inspection

Inspect blade pan and blade assembly for the following:

Notches and Gouges

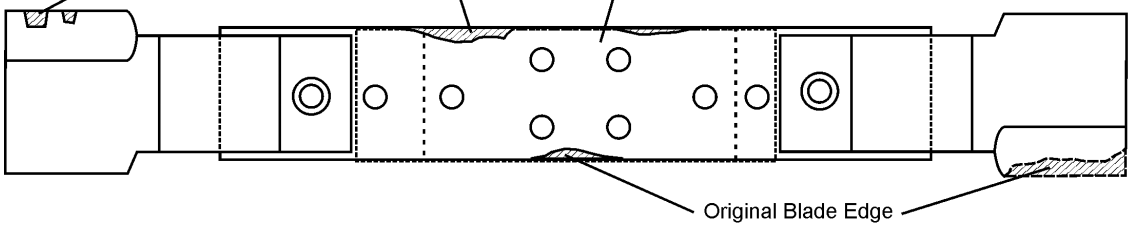
Cause: Blade contacting foreign objects

Remedy: Inspect the area to be mowed and remove foreign objects that could cause damage to the blades

Damaged Blade Bar

Cause: Blade Bar contacts an immovable object while mower was in motion.

Remedy: Inspect the area before mowing to determine where the immovable objects are located and place visible hazard markers to identify the areas. Avoid mowing in the area where immovable foreign objects exist.



Excessive Blade Wear

Cause: Mower height set too low. Blade used past intended life.

Remedy: Replace blades more often. Adjust mower height for mowing Conditions to eliminate blade-to- ground contact.

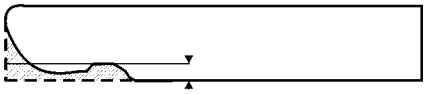
Ops-1243

OPS-B-0062

⚠ DANGER Inspect the Blades daily for abnormal wear. REPLACE BOTH BLADES on that carrier IMMEDIATELY if either blade has:

- Become bent or deformed from it's original shape or
- Any cracks are visible, or
- Deep gouges in the blade's surface are present, or
- Gouges or chipped areas in the cutting edge are larger than 1/2"(12.7mm), or
- The material on the leading edge has been worn away by more than 1/2(12.7mm)"

Failure to replace abnormally worn blades may lead to catastrophic failure of the blades and ejection of the broken part with tremendous force which may cause serious bodily injury or death. *OPS-U-0032*



1/2" MAXIMUM
(12.7mm)

Original Blade Edge

NOTE:
Replace Blades in pairs after no more than 1/2" (12.7mm) wear

Op-23

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6.4 Blade Bolt Inspection

Inspect Blade Bolt Head daily for wear as followed:

Excessive Blade Bolt Wear

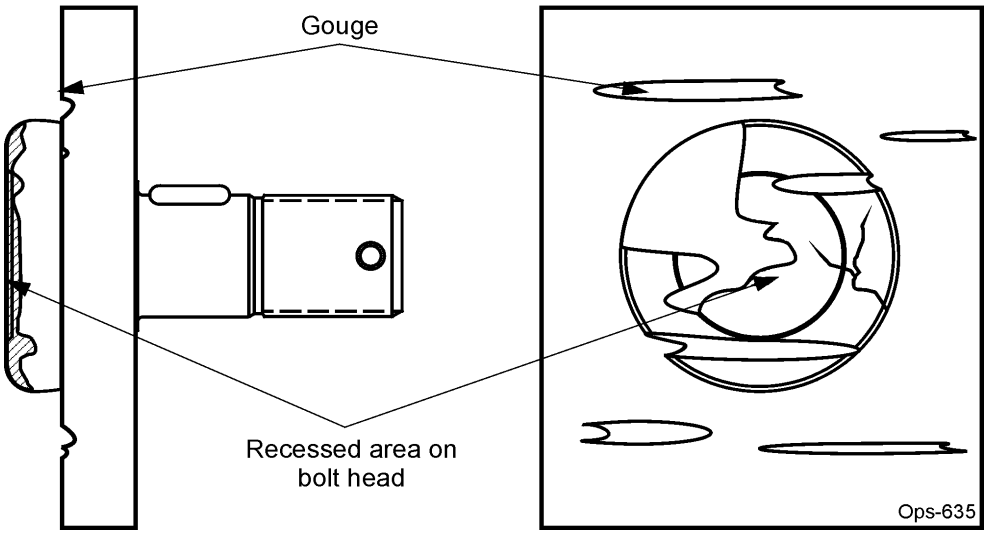
Cause: Blade Bolt contacts a foreign or solid object while Blade is in motion.

Remedy: Inspect the area before mowing to determine where the foreign objects are located and place visible hazard markers to identify the areas where immovable foreign objects exist, and avoid hitting the objects.

Notches and Gouges

Cause: Blade Bolt contacting foreign objects.

Remedy: Inspect area to be mowed and remove foreign objects that could cause damage to the blade bolt.



⚠ DANGER Inspect the Blade Bolt Heads daily for abnormal wear. REPLACE BOTH BLADE BOLTS on the Blades IMMEDIATELY if either blade bolts has:

- Visible cracks or
- If the recessed area on blade bolt is worn off or
- If Blade Bolt has gouges or chipped areas.

Failure to replace abnormally worn blade bolts may lead to catastrophic failure of the blades and ejection of the broken part which may cause serious bodily injury or death.

Always replace Blade Bolts with new bolts whenever replacing the Blades. *OPS-U-0037*

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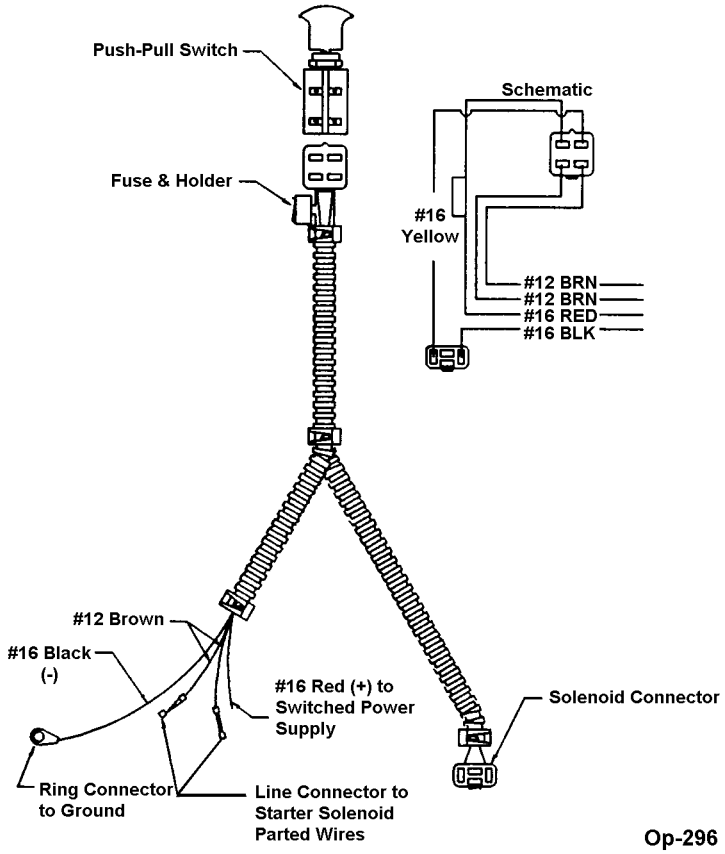
7.OPERATING CONTROL VALVES

The Boom has two control valves. One is the on-off switch to the cutter motor and the other is the position control valve.

ON-OFF Switch (Mower Valve) - To operate the mower, pull the switch while the tractor is running. The push-pull switch will remain in the ON position PULLED or the OFF position PUSHED until the operator desires to start or stop the mower. Always start the cutterhead with the tractor at idle.

⚠ CAUTION The operator should not leave his seat with this valve engaged or with the tractor engine running. Allow approximately 60 seconds for the blades to come to rest after turning the switch off before dismounting.



The mower valve comes with a push-pull operator switch that, when properly installed, will prevent the tractor from starting if the switch is in the ON position (pulled out). To properly install the push-pull operator, follow the wiring diagram shown. Failure to properly install this switch could result in injury to the operator or bystander. *OPS-B- 0030_F*

⚠ DANGER Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause serious injury or death. (SG-29)

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OPERATION

For safe and efficient boom mower operation, it is critical that the operator be experienced and feel confident in using the control valve sticks to position the boom. New operator's should allow ample time to practice using the control valve sticks in an open area before entering the work site. Before attempting to operate this equipment, read these instructions completely. If you have any questions concerning safety of operation, contact your dealer or **TERRAIN KING**.

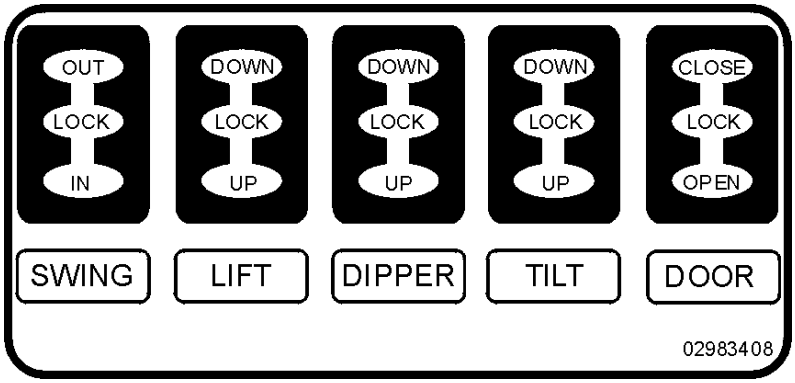
This valve is located on the Hydraulic Tank of the mower or tractor unit. These are fastened together in a bank of five valves. Their use will be explained in the following pages of this manual. Read each explanation carefully then practice in a safe, level area, CLEAR of all people, animals, and any obstructions. As always, use extreme caution when using this machine. This valve is controlled by operating the Remote Control Valve Box mounted to the right of the operator at a convenient height.

NOTE: *The stamped metal plate located above the control valve indicates each valve function.*

Practice performing multiple functions simultaneously. With some practice, the control valve sticks will become very easy to operate and will feel almost as it were an extension of your arm.

With the exception of the relief valves, which are preset at the factory, these are all the controls for operating the machine other than the controls on the tractor itself

.



VALVE OPERATION PLATE P/N 02983408

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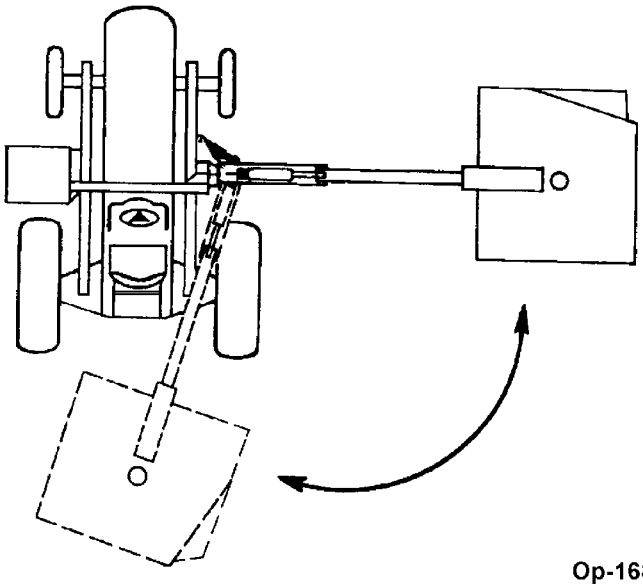
7.1 Swing



Op-168

The handle nearest the center of the tractor, in the bank of five valves, actuates the SWING cylinder. This valve has three positions and operates in three ways.

Push the valve handle forward and you admit hydraulic fluid to the Rod End of the SWING cylinder, causing the boom to swing out to the right side of the tractor. (See Diagram).

If the handle is released, the valve will automatically return to center, and the boom will be LOCKED in position.

Pull the valve handle back towards you and admit hydraulic fluid to the dead end of the cylinder causing the boom to swing back toward the rear of the tractor. If the handle is continually held in this position, the boom will continue to the left side of the tractor.

Again, if the valve handle is released, the valve will automatically return to center and the boom will be LOCKED in place.

BOOM SAFETY VALVE - If a rigid object (guard railpost, tree, etc.) is struck by the extended boom while the unit is moving forward the boom safety valve will allow the boom to swing rearward, and minimize the possibility of damage.

NOTICE: This device will NOT work if the unit is mowing BACKWARDS and the boom is in the full forward position. *OPS-B 0032_B*

⚠ DANGER Make certain that the Boom swing path is clear of bystanders, powerlines, and obstructions to prevent injury, electrocution, and possible machine damage. Swing Boom SLOWLY AND CAREFULLY. Avoid sudden starting and stopping. (Ops-0002-MISC)

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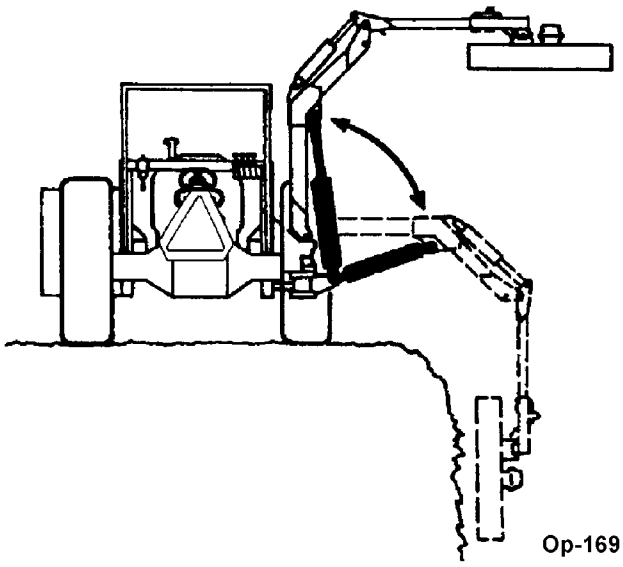
7.2 Lift



Op-169

The second handle from the left in the bank of five valves actuates the LIFT cylinder. This valve has three positions.

Pulling the valve handle back, toward the operator, causes the boom LIFT cylinder to lift the boom arm up.

⚠ CAUTION Make certain that you do not lift the head in such a fashion that you lift the left rear wheel off the ground. Install weight as needed to keep at least 1500 lbs. on the left rear wheel.

If the handle is released, the valve will automatically return to center and boom will be LOCKED in position.

Pushing the handle forward from the locked position will lower the boom.

Again, if the handle is released, the valve will automatically return to center and the boom will be LOCKED in position.

OPS-B- 0033_C

⚠WARNING Never Leave the mower unattended while the head is in the raised position. The mower could fall causing serious injury to anyone who might inadvertently be under the mower (SBM-4)

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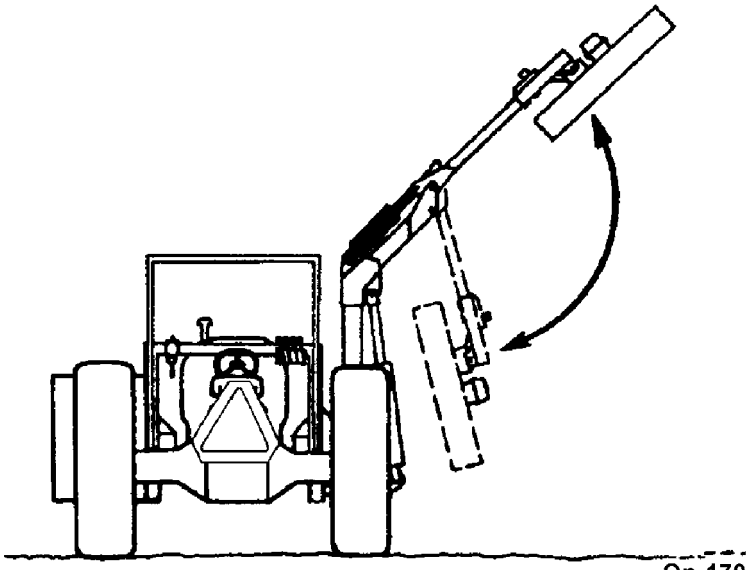
7.3 Dipper



The third handle in the bank of five valves actuates the DIPPER cylinder.

Like the swing valves, this has three positions.

Pulling the valve handle causes the boom DIPPER cylinder to lift the small boom UP.

⚠ CAUTION Make certain that you do not lift the head in such a fashion that you lift the left rear wheel off the ground. Install weight as needed to keep at least 1500 lbs. on the left rear wheel.

If the handle is released, the valve will automatically return to center, and the boom will be LOCKED in position.

Pushing the valve handle will lower the boom.

Again, if the handle is released, the valve will automatically return to center, and the boom will be LOCKED in position.

⚠ CAUTION Make certain that the Boom swing path is clear of bystanders, power lines, and obstruction to prevent injury, electrocution, and possible machine damage. Raise or Dip Boom SLOWLY AND CAREFULLY. Avoid sudden starting and stopping.

OPS-B- 0034_B

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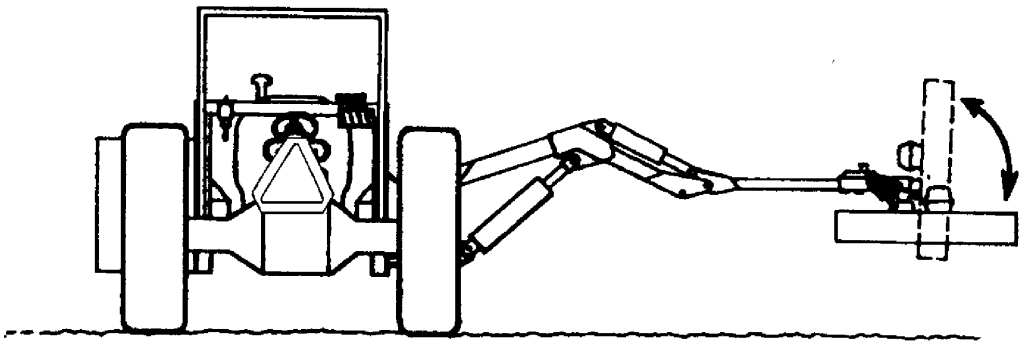
7.4 Tilt



The fourth handle in the bank of five valves actuates the TILT cylinder. This valve, like the lift valve, has three positions.

Pull the valve handle backward and you will cause the outer rim (farthest from the tractor) to move UP until the mower is cutting with the blade vertical, if you wish. This feature has been used successfully for trimming hedges many feet away from the tractor.

If the handle is released, the valve will automatically return to center and the boom will be LOCKED in position.

Pushing the handle forward will move the head in the opposite direction.

Again, if the handle is released, the valve will automatically return to center and the boom will be LOCKED in position. *OPS-B- 0035_C*

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BOOM JOYSTICK CONTROL - OPTIONAL EQUIPMENT

8.OPERATING THE BOOM JOYSTICK CONTROL

Positioning the boom is performed with electronic valves controlled by the operator using a single joystick. The joystick controls six standard operations: Swing, Lift, Dipper, Head, Tilt, and Door. Of these five operations, the Swing, Lift, and Dipper functions are *proportional*; that is, when the joystick is moved a small amount, the cylinder moves slowly and as the joystick continues to be moved, the cylinder continually becomes faster. This allows very precise positioning of the boom. Using a single joystick, many of the functions can be operated simultaneously such as the Lift and Dipper for even greater speed at positioning of the boom.

For safe and efficient boom mower operation, it is critical that the operator be experienced and feel confident in using the joystick control to position the boom. New operator's should allow ample time to practice using the joystick in an open area before entering the work site. Before attempting to operate this equipment, read these instructions completely. If you have any questions concerning safety of operation, contact your dealer or TERRAIN KING.

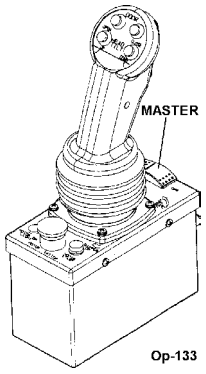
Each joystick control and responding boom action is covered in detail on the following pages. Read each explanation carefully then practice in a safe, level area, CLEAR of all people, animals, and any obstructions. As always, use extreme caution when using this machine.

Practice performing multiple functions simultaneously. With some practice, the joystick will become very easy to operate and will feel almost as it were an extension of your arm.

With the exception of the relief valves, which are preset at the factory, these are all the controls for operating the machine other than the controls on the tractor itself.

Master Switch

Operating any joystick function requires that the joystick Master Switch be ON. When ON the master switch indicator light will be illuminated. Turning off the master switch will deactivate all joystick controls. The master switch also serves as a safety device and will prevent the tractor from being started if the master switch is in the ON position. *OPS-B-0030_TK*



DANGER Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause serious injury or death. (SG-29)

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8.1 Mower Head Power

ON - OFF Switches (base of the JOYSTICK)

Before attempting to start the Tractor, make certain that the Motor Switch is pushed IN to the STOP position and the Master Switch is in the OFF position to ensure that the mower head is not engaged. As a safety device, the tractor can only be started with the Master Switch in the OFF position.

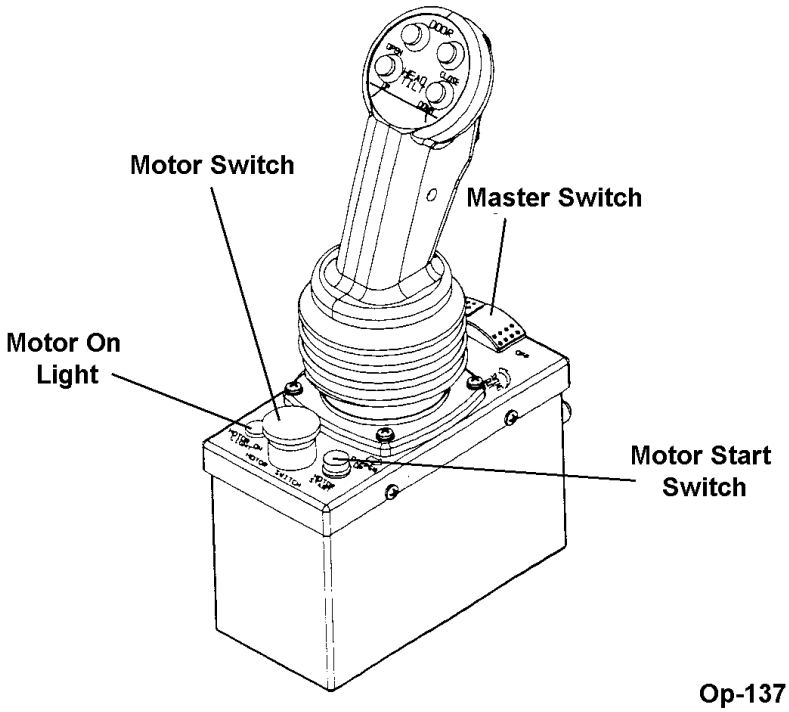
Starting

To Start the Motor on the Attached Head, Start the Tractor and Move the Master Switch to the ON position. Position the head in an area which is clear of any brush, grass, or any other obstruction. Pull the Motor Switch OUT until it snaps into the up position, and then press the Motor Start momentary switch to start the motor. Once the motor starts, release the momentary switch. Bring the Tractor's engine speed up to the normal operating speed of 540 PTO. The motor on light will illuminate while the mower motor is on.

The attached head motor will continue to operate while the Master Switch and the Motor Switch are in the On positions. Pushing the Motor Switch in to the STOP position or switching the Master Switch to the OFF position will stop the attached head motor.

Stopping

To stop the motor on the mower head, lower the Tractor engine speed to idle and push the Motor Switch IN to the STOP position. The mower will come to a complete stop in approximately 15 seconds. *OPS-B- 0031_A*



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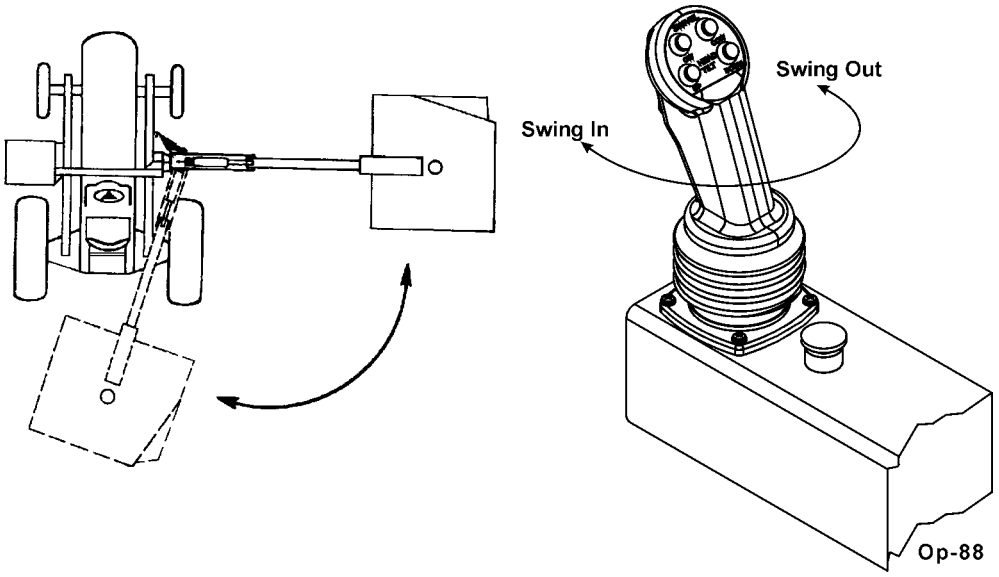
8.2 Swing



The twisting motion of the Joystick, actuates the SWING cylinder.

Twisting the Joystick Counterclockwise admits hydraulic fluid to the Butt End of the SWING cylinder, causing the boom to swing out to the right side of the tractor. (See Diagrams above)

When the Joystick is Released, the valve will automatically return to center, and the boom will be LOCKED in the current position.

Twisting the Joystick Clockwise admits hydraulic fluid to the rod end of the cylinder causing the boom to swing back toward the rear of the tractor. If the Joystick is continually held in this position pull in , the boom will continue to the left side of the tractor.

Again, if the Joystick is released, the valve will automatically return to center and the boom will be LOCKED in the current position.

BOOM SAFETY VALVE - If a rigid object (guard rail post, tree, etc.) is struck by the extended boom while the tractor is moving forward, the boom safety valve will allow the boom to swing rearward, and minimize the possibility of damage.

NOTICE: This device will NOT work if the unit is mowing BACKWARDS and the boom is in the full forward position. Mower heads are not designed to cut in reverse. *OPS-B- 0032*

⚠ DANGER Make certain that the Boom swing path is clear of bystanders, powerlines, and obstructions to prevent injury, electrocution, and possible machine damage. Swing Boom SLOWLY AND CAREFULLY. Avoid sudden starting and stopping. (Ops-0002-MISC)

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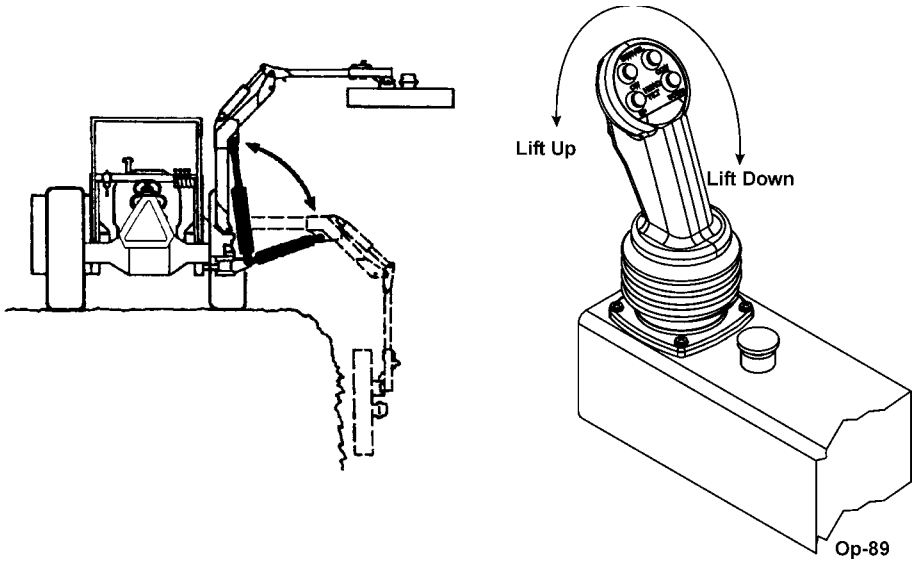
8.3 Lift



The forward and back movement of the Joystick actuates the LIFT cylinder.

Pulling the Joystick back, toward the operator, causes the boom LIFT cylinder to lift the boom arm up. Pushing the Joystick forward, causes the LIFT Cylinder to lower the Boom. If the Joystick is released, the Boom will LOCK in the position and the Joystick will return to the center position. *OPS-B- 0033*

⚠ DANGER Make certain that you do not lift the head in such a fashion that you lift the left rear wheel off the ground. Install weight as needed to keep at least 1500 lb. on the ground under left rear wheel.

(Ops-0003-MISC)

DANGER
CRUSHING AND PINCH POINTS
MOVING MACHINERY PARTS CAN PINCH OR CRUSH
OR FALL-WHICH MAY CAUSE INJURY OR DEATH.
02962765

⚠WARNING Never Leave the mower unattended while the head is in the raised position. The mower could fall causing serious injury to anyone who might inadvertently be under the mower (SBM-4)

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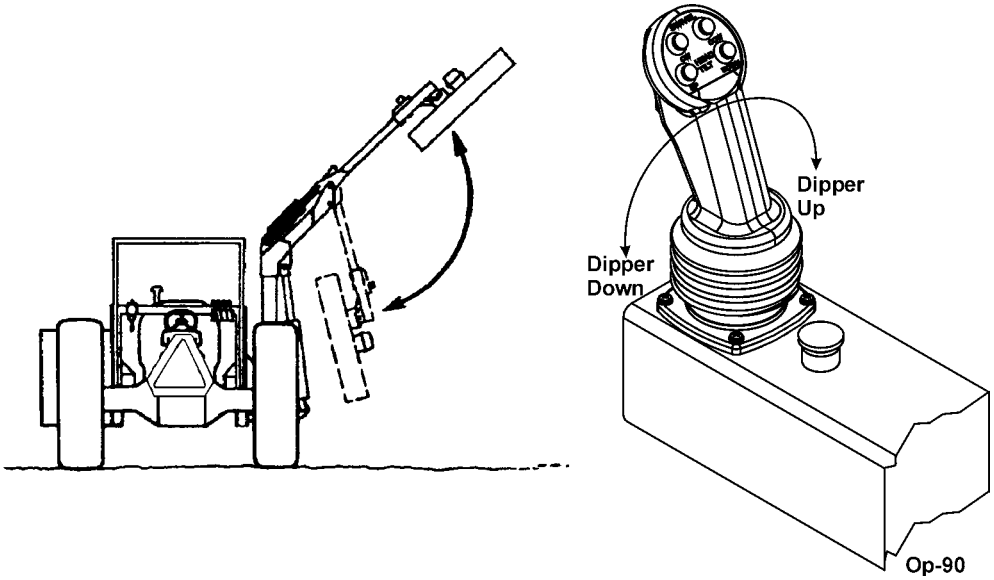
8.4 Dipper



The Left and Right movement of the Joystick actuates the DIPPER cylinder.

Pushing the Joystick lever to the RIGHT causes the boom DIPPER cylinder to LIFT the small boom UP.

If the Joystick is released, the valve will automatically return to center, and the boom will be LOCKED in position.

Pushing the Joystick to the LEFT will lower the boom.

Again, if the Joystick is released, the valve will automatically return to center and the boom will be LOCKED in the current place. *OPS-B- 0034*

⚠ DANGER Make certain that you do not lift the head in such a fashion that you lift the left rear wheel off the ground. Install weight as needed to keep at least 1500 lb. on the ground under left rear wheel.

(Ops-0003-MISC)

⚠ DANGER Make certain that the Boom swing path is clear of bystanders, powerlines, and obstructions to prevent injury, electrocution, and possible machine damage. Swing Boom SLOWLY AND CAREFULLY. Avoid sudden starting and stopping. (Ops-0002-MISC)

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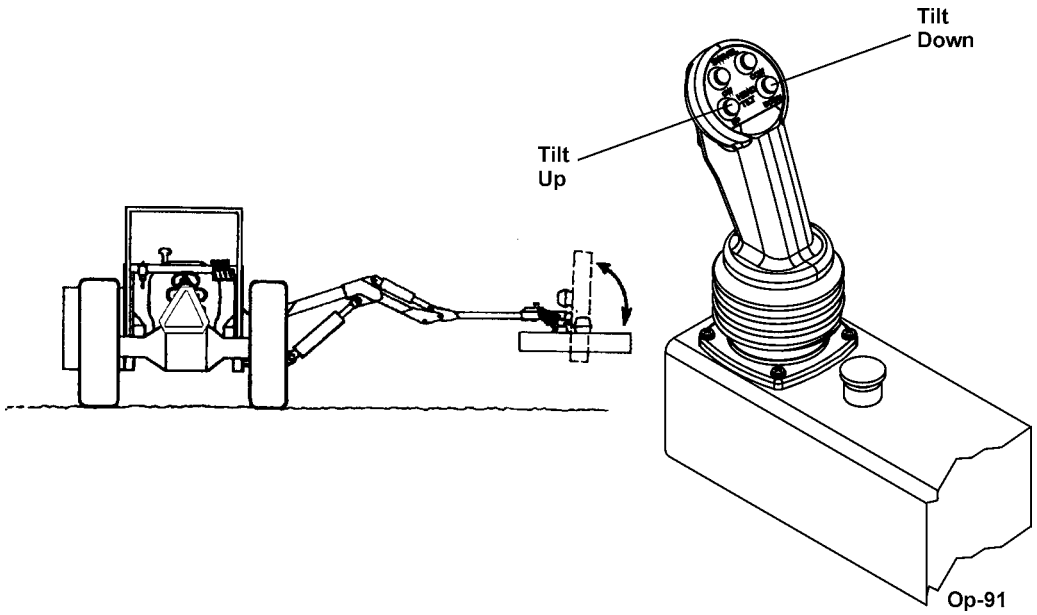
8.5 Tilt



The two lower thumb buttons (Red Buttons) on the panel at the top of the joystick activates the TILT cylinder.

Pressing the left button will cause the outer rim (farthest from the tractor) to move UP.

Pressing the right button will lower the Outer Rim down.

When the Joystick's Thumb buttons are released, the head is locked in the current position. *OPS-B- 0035*

⚠ DANGER Make certain that you do not lift the head in such a fashion that you lift the left rear wheel off the ground. Install weight as needed to keep at least 1500 lb. on the ground under left rear wheel.

(Ops-0003-MISC)

⚠ DANGER Make certain that the Boom swing path is clear of bystanders, powerlines, and obstructions to prevent injury, electrocution, and possible machine damage. Swing Boom SLOWLY AND CAREFULLY. Avoid sudden starting and stopping. (Ops-0002-MISC)

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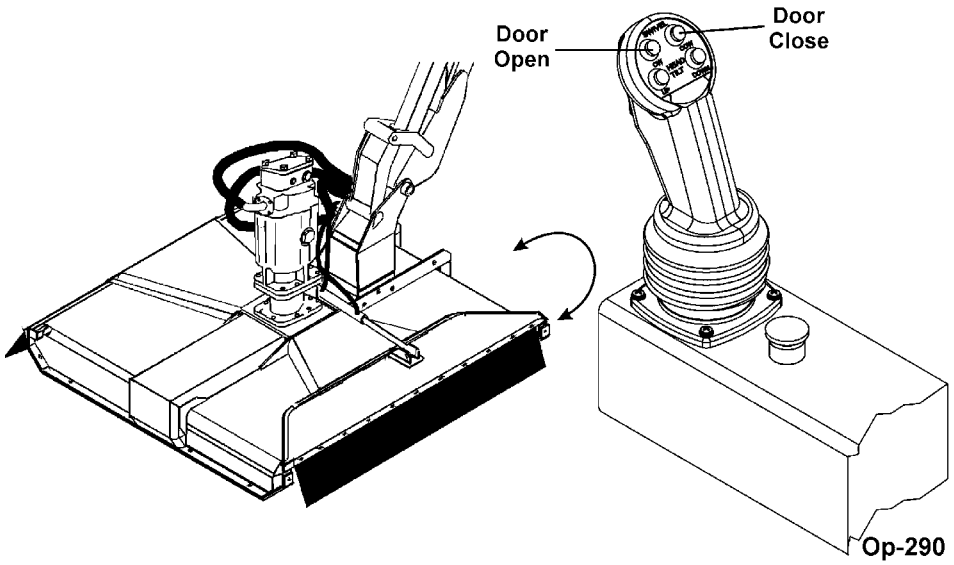
8.6 Door



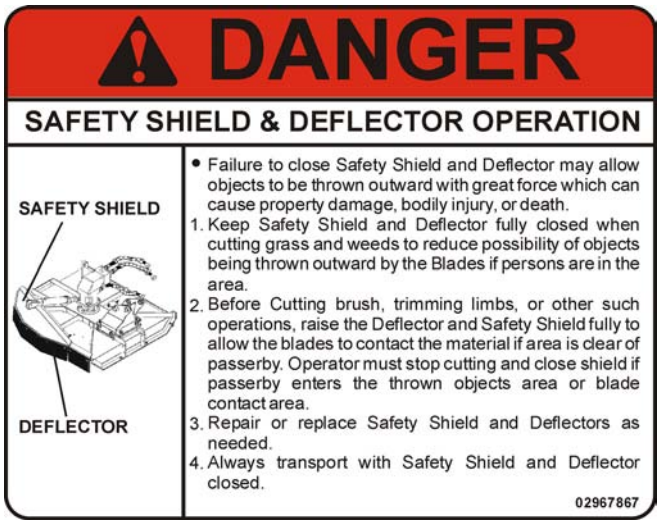
Using the trigger button in conjuction with the swivel buttons(Red Buttons)on the joystick actuates the Auxiliary Cylinder on the attached head..

Pressing the trigger button and pushing the left swivel button opens the door.

Pressing the trigger button and pushin the right swivel button closes the door.

When the buttons are released, the door will lock in current position.

OPS-B- 0038_B


DANGER
SAFETY SHIELD & DEFLECTOR OPERATION
SAFETY SHIELD
DEFLECTOR
• Failure to close Safety Shield and Deflector may allow objects to be thrown outward with great force which can cause property damage, bodily injury, or death.
1. Keep Safety Shield and Deflector fully closed when cutting grass and weeds to reduce possibility of objects being thrown outward by the Blades if persons are in the area.
2. Before Cutting brush, trimming limbs, or other such operations, raise the Deflector and Safety Shield fully to allow the blades to contact the material if area is clear of passerby. Operator must stop cutting and close shield if passerby enters the thrown objects area or blade contact area.
3. Repair or replace Safety Shield and Deflectors as needed.
4. Always transport with Safety Shield and Deflector closed.
02967867

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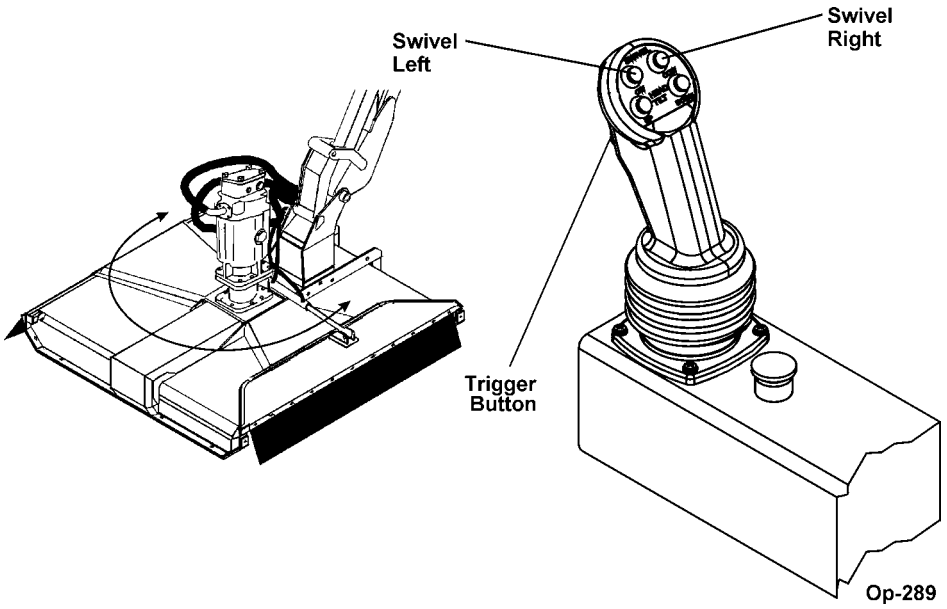
OPERATION

OPTIONAL

8.7 Head Swivel



The two upper buttons (Red Buttons) on the panel at the top of the joystick actuates the head swivel on the attached head.

Pressing the left button swivels the head to the left.

Pressing the right button swivels the head to the right.

OPS-B- 0036_A

⚠ DANGER Make certain that the Boom swing path is clear of bystanders, powerlines, and obstructions to prevent injury, electrocution, and possible machine damage. Swing Boom SLOWLY AND CAREFULLY. Avoid sudden starting and stopping. (Ops-0002-MISC)

9.DRIVING THE TRACTOR AND IMPLEMENT

Safe tractor transport requires the operator to possess a thorough knowledge of the model being operated and precautions to take while driving with an attached implement. Ensure the tractor has the capacity to handle the weight of the boom and the tractor operating controls are set for safe transport. To ensure safety while driving the tractor with a boom, review the following.

Read all safety instructions. Decals on the Boom warn you of particular and multiple hazards. Some decals are attached close to part of the Boom where there is a possible hazard. Read and make sure you understand the safety messages before you operate the implement. Keep all decals clean and readable. Replace lost or damaged decals, refer to safety section for more information. *OPS-B- 0005_TK*

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⚠ DANGER

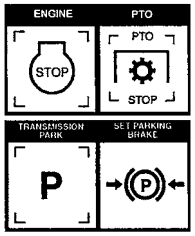
Never operate the Tractor or Implement until you have read and completely understand this Manual, the Tractor Operator's Manual, and each of the Safety Messages found in the Manual or on the Tractor and Implement. Learn how to stop the tractor engine suddenly in an emergency. Never allow inexperienced or untrained personnel to operate the Tractor or Implement without supervision. Make sure the operator has fully read and understood the manuals prior to operation. (SG-4)

⚠ WARNING

Always maintain the safety signs in good readable condition. If the safety signs are missing, damaged, or unreadable, obtain and install replacement safety signs immediately. (SG-5)

⚠ DANGER

BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



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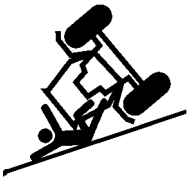
⚠WARNING Transport only at speeds where you can maintain control of the equipment. Serious accidents and injuries can result from operating this equipment at high speeds. Understand the Tractor and Implement and how it handles before transporting on streets and highways. Make sure the Tractor steering and brakes are in good condition and operate properly.

Before transporting the Tractor and Implement, determine the proper transport speeds for you and the equipment. Make sure you abide by the following rules:

Test the tractor at a slow speed and increase the speed slowly. Apply the Brakes smoothly to determine the stopping characteristics of the Tractor and Implement. As you increase the speed of the Tractor the stopping distance increases. Determine the maximum transport speed not to exceed 20 mph (30 kph) for transporting this equipment.

Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that the equipment can be operated at a higher speed. Use extreme care and reduce your speed when turning sharply to prevent the tractor and implement from turning over. Determine the maximum turning speed for you and this equipment before operating on roads or uneven ground.



Only transport the Tractor and Implement at the speeds which allow you to properly control the equipment.

Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes or worn tires. When operating down a hill or on wet or rain slick roads, the braking distance increases: use extreme care and reduce your speed. When operating in traffic always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy. (SG-19)

9.1 Starting the Tractor

The procedure to start the tractor is model specific. Refer to the tractor operator's manual for starting procedures for your particular tractor. Consult an authorized dealer if the starting procedure is unclear. Ensure the 3-point control lever is in the lowered position and the PTO is disengaged before starting the tractor. *OPS-U-0033_KB*

Ops-1214

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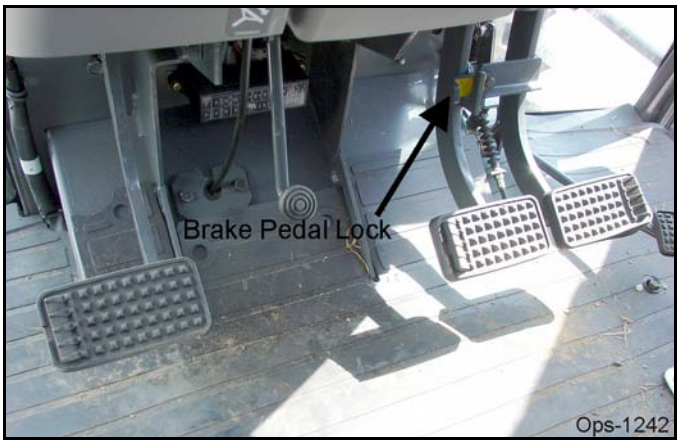
9.2 Brake

Make sure the tractor brakes are in good operating condition. Before operating the tractor on the road or before applying the parking brake, be sure to interlock the right and left pedals as illustrated on image.

Use individual brakes to assist in making sharp turns at slow speeds (Field Operation Only). Disengage the brake pedal lock and depress only one brake pedal. Be sure brake pedals have equal adjustment when using locked together. *OPS-U- 0013_TK*



⚠WARNING To avoid personal injury: Be sure to interlock the right and left pedals. Applying only one rear wheel brake at high speeds could cause the tractor to swerve or roll-over. Be sure brake pedals have equal adjustment when using locked together. Incorrect or unequal brake pedal adjustment can cause the tractor to swerve or roll-over.

⚠WARNING To avoid personal injury: Do not make sudden braking. An accident may occur such as by heavy towed load shifting forward or loss of control. To avoid skidding and loss of steering control when driving on icy, wet, or loose surfaces, make sure the tractor is correctly ballasted, operated at reduced speed, operated with front wheel drive engaged (If equipped). The braking characteristics are different between two and four wheel drive. Be aware of the difference and use carefully

9.3 Differential Lock

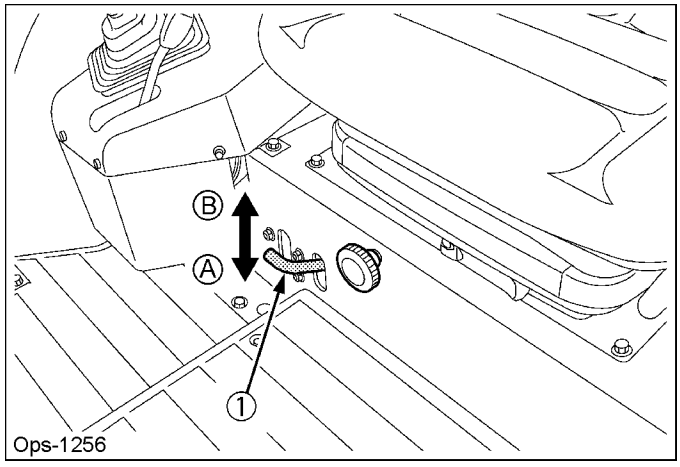
2WD - If one of the rear wheels should slip, step on the differential lock pedal. Both wheels will then turn together, reducing slippage.

Differential lock is maintained only while the pedal is depressed.

IMPORTANT: When using the differential lock, always slow the engine down.

To prevent damage to power train, do not engage differential lock when one wheel is spinning and the other is completely stopped.

If the differential lock cannot be released, step lightly on the brake pedals alternately.



(**1**) Differential lock pedal (Rear wheel)

(**A**) Press to "ENGAGE"

(**B**) Release to DISENGAGE"

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WARNING To avoid personal injury due to loss of steering control: Do not operate the tractor at high speed with any differential lock engaged. Do not attempt to turn with the rear wheel or 4-wheel differential lock engaged. Be sure to release the rear wheel or 4-wheel differential locks before making a turn in field conditions.

4WD - If the front and/or rear wheels should slip while driving straight in field conditions, step on the 4-wheel differential lock pedal. The four wheels will then turn together, reducing slippage.

If the front and/or rear wheels slip while in a turn in field conditions, step on the front wheel differential lock pedal only. The front wheels alone will rotate together for easy turning.

When using the differential lock, always slow the engine down.

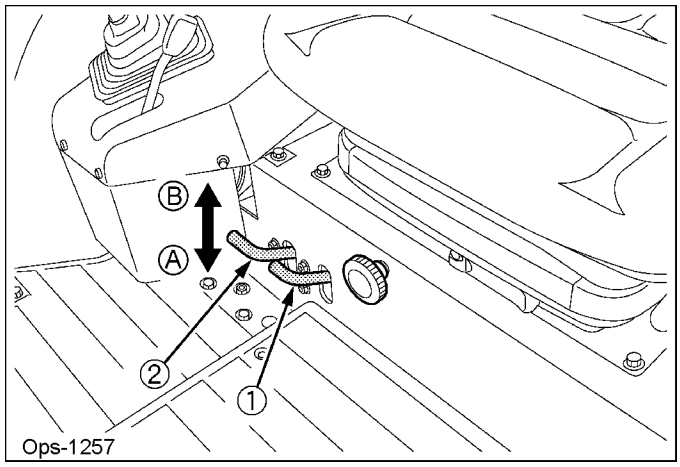
To prevent damage to power train, do not engage differential lock when one wheel is spinning and the other is completely stopped.

To prevent damage to power train, do not attempt to turn the tractor when 4-wheel differential lock pedal is pressed down.

If the differential lock cannot be released:

4-wheel differential lock pedal: --- Step lightly on the brake pedals alternately.

Front wheel differential lock pedal: --- Turn the steering wheel alternately.



(**1**) 4-wheel differential lock pedal (Rear and Front wheel)

(**2**) Front wheel differential lock pedal (Front wheel only)

(**A**) Press to "ENGAGE"

(**B**) Release to "DISENGAGE"

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9.4 Driving the Tractor and Boom

Start off driving at a slow speed and gradually increase your speed while maintaining complete control of the tractor. Never operate the tractor at speeds that cannot be safely handled or which will prevent the operator from stopping quickly during an emergency. If the power steering or engine ceases operating, stop the tractor immediately as the tractor will be difficult to control.

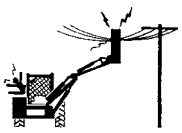
Perform turns with the tractor and mower at slow speeds to determine how the tractor with the attached implement handles a turn. Determine the safe speed to maintain proper control of the tractor when making turns. When turning with the implement the overall working length and width of the unit is increased. Allow additional clearance for the unit when turning or when passing large obstructions.

To avoid overturns, drive the tractor with care and at safe speeds, especially when operating over rough ground, crossing ditches or slopes, and turning corners. Use extreme caution when operating on steep slopes. Keep the tractor in a low gear when going downhill. DO NOT coast or free-wheel downhill.

OPS-B- 0006_KB

⚠WARNING Never Leave the mower unattended while the head is in the raised position. The mower could fall causing serious injury to anyone who might inadvertently be under the mower (SBM-4)

⚠ DANGER Always keep a careful lookout and use extreme care when working around overhead obstructions. Never allow the Mower head or boom within 10 feet of any power line. When working close to overhead power lines consult your electric company for a safe code of operation. (SBM-7)



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OPERATION

10.OPERATING THE BOOM UNIT AND ATTACHED HEAD

THE OPERATOR MUST COMPLETELY UNDERSTAND HOW TO OPERATE THE TRACTOR AND MOWER AND ALL CONTROLS BEFORE ATTEMPTING TO MOW. The operator must read and understand the Safety and Operation Sections of this manual and the tractor operator's manuals. These manuals must be read and explained to any operator who cannot read. Never allow someone to operate the unit without complete operating instructions.

To ensure safety to the operator, bystanders, and equipment and before starting any mowing operation. The operator must become familiar with the area to be mowed, and any obstacles and hazards contained within. Special attention should be paid to foreign debris, overhead obstructions, rough terrain, steep slopes,passersby and animals in the area.

Only operate the mower head from the tractor operator's seat with the seatbelt securely fastened. Only operate a boom and equipped head on cabbed tractor that is equipped with a polycarbonate safety-protected right side window or a non cabbed tractor equipped with a ROPS and operator safety screen.

Avoid operating in the reverse direction when possible. In situations where the boom and mower must be backed to access areas to be cut, make sure there are no persons or other foreign debris behind the tractor. When backing, operate the tractor at a much reduced ground speed to ensure complete control of the unit is maintained. *OPS-B- 0007*

⚠WARNING Do not mow with two machines in the same area except with Cab tractors with the windows closed. (SGM-11)

⚠WARNING Mow only in conditions where you have clear visibility in daylight or with adequate artificial lighting. Never mow in darkness or foggy conditions where you cannot clearly see at least 300 feet (90 m) in front and to the sides of the tractor and mower. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects. If you are unable to clearly see these type of items discontinue mowing. (SGM-1)

⚠WARNING Avoid mowing in reverse direction when possible. Check to make sure there are no persons behind the mower and use extreme care when maneuvering in reverse. Mow only at a slow ground speed where you can safely operate and control the tractor and mower. Never mow an area that you have not inspected and removed debris or foreign material. (SGM-08)

⚠WARNING Never operate the mower head tilted down where the operator can see the blades of the mower. The blade could throw an object toward the operator causing serious injury or death. Never operate the mower without an Operator Protective Structure. Always wear safety glasses and a hard hat. (Ops-0005-MISC)

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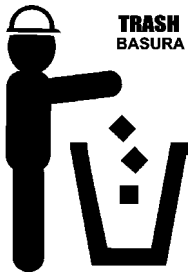
10.1 Foreign Debris Hazards/Overhead Obstructions

An area to be cut must first be inspected for objects that could be thrown or that could damage the machine. Walk through the area looking for fences, boulders, rocks, culverts, stumps or metal objects. Mark the inspected area with flags. If the area is dense and cannot be walked thoroughly it may be necessary to inspect a smaller area as well as possible, then trim away the part that has been inspected and can safely be removed. Walk each new area again and repeat the inspection before cutting more away. Repeat as often as necessary until the area is cleared. It can be damaging and/or dangerous to work the cutter in an area that has not been visually inspected.

Place DANGER signs at least 300 feet beyond the perimeter of the area to be worked, not just 300 feet from where the machine started operating! It is convenient in many cases to work in 300 foot sections. Move the first Danger sign to the beginning of the freshly cleared area, place it, then take the first cutting area flag up to the end of the freshly cleared area 300 feet away. Walk and inspect the next 300 feet and place the second cutting area flag. Pick up the second DANGER sign, and take it a further 300 feet along the road or trail. Note that in many cases the DANGER area will extend in front of and behind the machine as well as along each side. Post signs accordingly. *OPS-B- 0008*

⚠WARNING

Extreme care should be taken when operating near loose objects such as gravel, rocks, wire, and other debris. Inspect the area before mowing. Foreign objects should be removed from the site to prevent machine damage and/or bodily injury or even death. Any objects that cannot be removed must be clearly marked and carefully avoided by the operator. Stop mowing immediately if blades strike a foreign object. Repair all damage and make certain rotor or blade carrier is balanced before resuming mowing. (SGM-05)



⚠WARNING

Many varied objects, such as wire, cable, rope, or chains, can become entangled in the operating parts of the mower head. These items could then swing outside the housing at greater velocities than the blades. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the cutting area for such objects before mowing. Remove any like object from the site. Never allow the cutting blades to contact such items. (SGM-06)

⚠WARNING

Mow at the speed that you can safely operate and control the tractor and mower. The correct mowing speed depends on terrain condition and grass type, density, and height of cut. Normal ground speed range is from 2 to 5 mph(3-8 kph). Use slow mowing speeds when operating on or near steep slopes, ditches, drop-offs, overhead obstructions, power lines, or when debris and foreign objects are to be avoided. (SGM-07)

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10.2 Operating Speed and Ground Speed

Ground speed for mowing will depend upon the height, type, and density of vegetation to be cut. Do Not exceed 2 MPH while operating. Operate the mower at its full rated PTO speed to maintain blade speed for a clean cut. Refer to the tractor operator's manual or the tractor instrument panel for the engine speed and gear to provide the required operating and desired ground speed. Make sure that the mower is operating at its full rated speed before entering the vegetation to be cut. Always start and stop cutting blades with engine near idle.

Ground speed is achieved by transmission gear selection and not by the engine operating speed. The operator may be required to experiment with several gear range combinations to determine the best gear and range which provides the most ideal performance from the implement and most efficient tractor operation. As the severity of cutting conditions increase, the ground speed should be decreased by selecting a lower gear to maintain the proper operating PTO speed. *OPS-B- 0009*

⚠WARNING Mow at the speed that you can safely operate and control the tractor and mower. The correct mowing speed depends on terrain condition and grass type, density, and height of cut. Normal ground speed range is from 2 to 5 mph(3-8 kph). Use slow mowing speeds when operating on or near steep slopes, ditches, drop-offs, overhead obstructions, power lines, or when debris and foreign objects are to be avoided. (SGM-07)

10.3 Operating the Attached Mower Heads

The boom can attach to and operate multiple heads one at a time for a wide range of vegetation control applications. The attached heads are designed for different applications. The head should be selected based on the mowing application and the location that the unit is being operated.

Refer to the Assembly manual to ensure the head is properly attached to the boom hitch and hydraulic lines are properly connected. *OPS-B- 0010*

⚠ DANGER There are obvious and hidden potential hazards in the operation of this Mower. REMEMBER! This machine is often operated in heavy brush and in heavy weeds. The Blades of this Mower can throw objects if shields are not properly installed and maintained. Serious injury or even death may occur unless care is taken to insure the safety of the operator, bystanders, or passersby in the area. Do not operate this machine with anyone in the immediate area. Stop mowing if anyone is within 300 feet of mower. (SGM-02)

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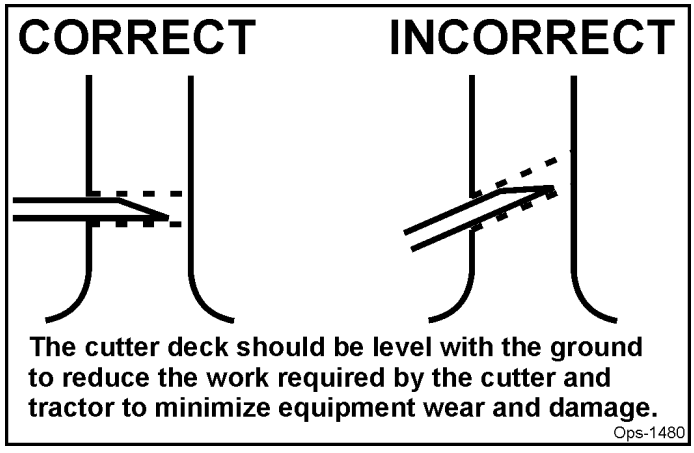
Rotary Cutter

- The Rotary Cutting Head is rated to cut vegetation up to 5” in diameter.
- Objects tend to be thrown out from under the head in the direction of blade rotation and toward the raised edge of the shroud. Avoid cutting with the head tilted at an angle that objects would be thrown towards the unit operator position.
- When clearing brush and small trees, operate unit at 1 mph ground speed and position cutter head at verticle angle that will cut 2’ to 3’ into the growth. Make the first pass just above ground level. This will remove the low branches and allow operator a better view of the material to plan for the next pass. After repeated passes, each elevated approximatly 4’ above the last, the main trunks of the trees will be exposed and they can be cut as desired. This avoids clogging the head with cut and mulched material.
- Open the hydraulically operated door to allow blades to reach large diameter vegetation. Operate the mower with the door closed when cutting grass, weeds, and light brush to reduce thrown objects for safer mower operation.
- When operating near the ground or when mulching be particularly careful that there are no bystanders or animals within 100 yards. Debris tends to fly out at great speed and can injure or even cause death.

OPS-B- 0039_KB

10.4 Operational Instruction

When cutting trees and brush approach material to be cut with the head perpendicular to material. The cutting edge of the blades should be the only elements in contact with material. The blade bar should not contact with material. The mower head and blades should be moved perpendicularly into the material rather lowering the mower head on top of material. If the blade bar edges are gouged or rounded from wear, the mower head is being used incorrectly in an abusive manner. The blade bar is not intended to cut material or to be a wear item like the blades. Do Not allow the blades or blade bar to contact the ground, rocks or solid objects. Contact with the ground can result in rocks and solid objects being thrown out from under the mower head which can cause serious injuries to the operator and bystanders. This type of operation can lead to bent or broken blade bars, broken blade bolts and broken blade bar assembly bolts which can be dangerous to the operator and bystanders.


CORRECT
INCORRECT
The cutter deck should be level with the ground to reduce the work required by the cutter and tractor to minimize equipment wear and damage.
Ops-1480

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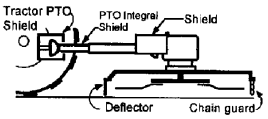
OPERATION

⚠ DANGER The rotating parts of this machine have been designed and tested for rugged use. However, the blades could fail upon impact with heavy, solid objects such as metal guard rails and concrete structures. Such impact could cause the broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the cutting blades to contact such obstacles. (SGM-4)

⚠ DANGER All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Chain Guards, Steel Guards, Gearbox Shields, PTO integral shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SGM-3)



⚠ WARNING Many varied objects, such as wire, cable, rope, or chains, can become entangled in the operating parts of the mower head. These items could then swing outside the housing at greater velocities than the blades. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the cutting area for such objects before mowing. Remove any like object from the site. Never allow the cutting blades to contact such items. (SGM-06)

Flail

- The Flail Brush Cutter is rated to cut material up to 4” in diameter.
- Cutting height ranges from 3/4” to 6” and set by adjusting the height of the roller assembly.
- Remove roller assembly when cutting limbs and other large diameter vegetation (greater than 2”) to prevent damaging the roller assembly.
- When operating near the ground or when mulching be particularly careful that there are no bystanders or animals within a 100 yards. Debris tends to fly out at great speed and can injure or even cause death. *OPS-B- 0042_KB*

Ops-1232

⚠ WARNING Many varied objects, such as wire, cable, rope, or chains, can become entangled in the operating parts of the mower head. These items could then swing outside the housing at greater velocities than the blades. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the cutting area for such objects before mowing. Remove any like object from the site. Never allow the cutting blades to contact such items. (SGM-06)

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⚠ DANGER Do not put hands or feet under mower decks. Blade Contact can result in serious injury or even death. Stay away until all motion has stopped and the decks are securely blocked up. (SFL-2)

⚠ DANGER Flail Mowers are capable under adverse conditions of throwing objects for great distances (300 feet or more) and causing serious injury or death. Follow safety messages carefully.

STOP MOWING IF PASSERSBY ARE WITHIN 300 FEET UNLESS:

-Front and Rear Deflectors, Chain Guards, or Bands are installed and in good, workable condition;

-Mower sections or Wings are running close to and parallel to the ground without exposed Blades;

-All areas have been thoroughly inspected and all foreign material such as rocks, cans, glass, and general debris has been removed.

NOTE: *Where there are grass and weeds high enough to hide debris that could be struck by the blades, the area should be: inspected and large debris removed, mowed at an intermediate height, inspected closely with any remaining debris being removed, and mowed again at desired final height. (This will also reduce power required to mow, reduce wear and tear on the Mower drivetrain, spread cut material better, eliminate streaking, and make the final cut more uniform.)* (SFL-6)

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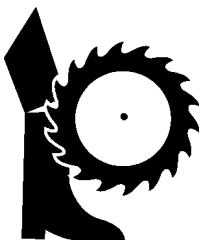
Saw Blade Tree Limb Cutter

- The BuzzBar Tree Limb Cutter is rated for material up to 6” in diameter.
- Suggested cutting Speed for the Buzzbar is 1st gear. Slow down for thick, dense, or hard material.
- Always cut with the boom positioned perpinducular to the limbs being cut (see diagram). Cutting with the boom swing backward or forward will cause the blades to warp from “raking” through the cut material.
- For maximum blade life, do not allow the blades to contact hard items such as the ground or metal objects.
- Check belt tension daily.If belts start to slip adjust tension soon. The more belt slippage, the more they will wear and looser they become.
- Grease bearings of saw blade spindles daily.
- Two pumps from hand grease gun.
- When operating the unit be sure there are no bystanders or animals within 100 yards of the unit.

OPS-B- 0043

⚠WARNING Do not put hands or feet near the cutter bar. Blade contact can result in serious injury. Stay away until all motion has stopped and the mower is securely blocked up. (SBM-24)



⚠ DANGER The rotating parts of this machine have been designed and tested for rugged use. However, the blades could fail upon impact with heavy, solid objects such as metal guard rails and concrete structures. Such impact could cause the broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the cutting blades to contact such obstacles. (SGM-4)

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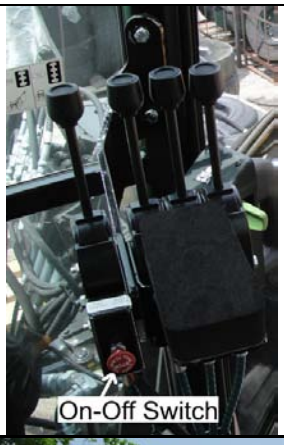
10.5 Shutting Down the Attached Head- For Standard Equipment

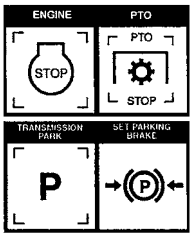
To shut down attached mower head, first bring the tractor to a complete stop. Decrease engine RPM to idle then disengage cutterhead. The mower head will come to a complete stop within a suitable amount of time. Do not engage or disengage the cutterheads at a high RPM unless there is an emergency situation.



Park the tractor on a level surface, place the transmission in park or neutral and apply the parking brake, shut down the engine, remove the key, and wait for all motion to come to a complete stop before exiting the tractor. *OPS-B- 0011_TK*

⚠ DANGER

BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



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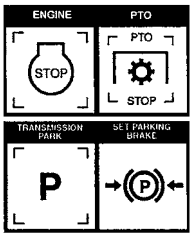
10.6 Shutting Down the Attached Head - For (Optional Equipment)

To shut down attached mower head, first bring the tractor to a complete stop. Decrease engine RPM to idle then disengage cutterhead. The mower head will come to a complete stop within a suitable amount of time. Do not engage or disengage the cutterheads at a high RPM unless there is an emergency situation.

Park the tractor on a level surface, place the transmission in park or neutral and apply the parking brake, shut down the engine, remove the key, and wait for all motion to come to a complete stop before exiting the tractor. *OPS-B- 0011_C TK*

⚠ DANGER

BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



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11.TRACTOR, BOOM, AND ATTACHED HEAD STORAGE

Properly preparing and storing the unit at the end of the season is critical to maintaining its appearance and to help ensure years of dependable service. The following are suggested storage procedures:

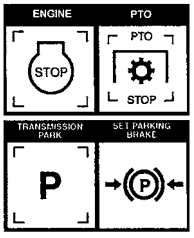
- Thoroughly clean all debris from boom and head to prevent damage from rotting grass and standing water.
- Lubricate all grease points and fill oil levels according to the maintenance lubrication schedule.
- Tighten all bolts to the proper torque. Ensure all pins and other hardware are in place.
- Check the boom arm and head for worn and damaged parts. Perform repairs and make replacements so that the mower will be ready for use at the start of the next season.
- Store the unit in a clean and dry location.
- Use spray touch-up enamel where necessary on bare metal surfaces to prevent rust and to maintain the appearance of the mower.

OPS-B- 0012_C TK

Ops-1228

⚠ DANGER Never allow children to play on or around Tractor or Implement. Children can slip or fall off the Equipment and be injured or killed. Inadvertent contact with controls can cause the Implement to shift or fall crushing themselves or others. (SG-25)

⚠ DANGER BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



⚠ WARNING Perform service, repairs and lubrication according to the maintenance section. Ensure the unit is properly lubricated as specified in the lubrication schedule and all bolts and nuts are properly torqued. Failure to properly service, repair and maintain this Implement in good operating condition could cause component failure and possible serious injury or even death. (SG-35)

12.TRANSPORTING THE TRACTOR AND IMPLEMENT

Inherent hazards of operating the tractor and implement and the possibility of accidents are not left behind when you finish working in an area. Therefore, the operator must employ good judgement and safe operation practices when transporting the tractor and implement between locations. By using good judgement and following safe transport procedures, the possibility of accidents while moving between locations can be substantially minimized. *OPS-U- 0017*

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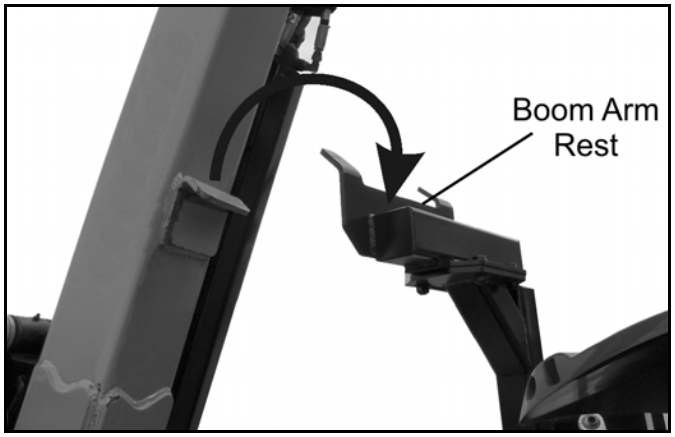
13.Placing Boom Arm on Boom Arm Rest

Before transporting tractor between locations, idle the tractor engine, disengage the attached head, and wait for all head motion to come to a complete stop. Place the boom in its storage cradle rest support and then turn the joystick master switch to the OFF position.

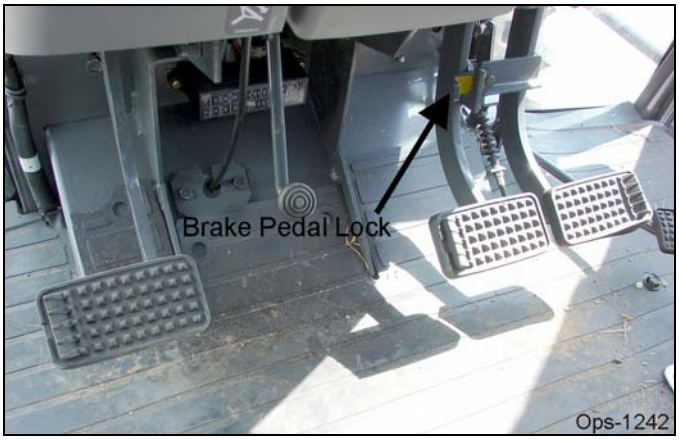
- Placing Boom Articulating Arm on Boom Arm Rest
- Extend the dipper section approximately half way out.
- Bring the Lift to its full height and carefully swing the boom back until it is just positioned over the Boom Rest. NOTE: There is a formed "V" plate on the boom arm that fits onto the boom arm rest.
- Lower the boom arm until this "V" rests on the Boom Rest.
- Place the Master Switch in to the OFF position.

The boom is now in the transport position. To remove the boom from the Boom Rest, pull the Lift back and raise the boom about 6 inches. Then Swing the boom around to the desired position. *OPS-B- 0013_D*



DANGER Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)

Before transporting the tractor on a public roadway or boarding a trailer for transport, the tractor brake pedals should be locked together. Locking the pedals ensures that both wheels brake simultaneously while stopping, especially when making an emergency stop. *OPS-U- 0018_TK*



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13.1 Transporting on Public Roadways

Extreme caution should be used when transporting the tractor and mower on public roadways. The tractor must be equipped with all required safety warning features including a SMV emblem and flashing warning lights to alert drivers of the tractor's presence. Remember that roadways are primarily designed for automotive drivers and most drivers will not be looking out for you, therefore, you must look out for them. Check your side view mirrors frequently and remember that vehicles will approach quickly because of the tractor's slower speed. Be extremely cautious when the piece of equipment that you are driving, is wider than the tractor tire width and/or extends beyond your lane of the road. *OPS-B- 0014*

The SMV (Slow-Moving Vehicle) emblem is universal symbol used to alert drivers of the presence of equipment traveling on roadways at a slow speed. SMV signs are a triangular bright orange with reflective red trim for both easy day and night visibility. Make sure the SMV sign is clean and visible from the rear of the unit before transporting the tractor and implement on a public roadway. Replace the SMV emblem if faded, damaged, or no longer reflective. *OPS-U- 0020*

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Before proceeding on to public roads make sure your boom arm is resting properly on boom rest and the implements head is properly positioned so that the operator, tractor flashing warning lights and SMV are not being obscured from other motorist on the road. Also make sure there is enough clearance between cutting head and rear tractor tire. Refer to images Ops-1210 & Ops-1217

Make sure that all tractor flashing warning lights, headlights, and brake/taillights are functioning properly before proceeding onto public roads. While newer model tractors have plenty of lighting to provide warning signals and operating lighting, most older models where only equipped with operating lights. Consult an authorized tractor dealer for lighting kits and modifications available to upgrade the lighting on older tractor models. *OPS-B-0015*

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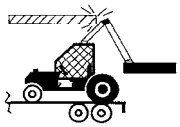
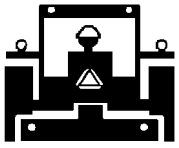
When operating on public roads, have consideration for other road users. Pull to the side of the road occasionally to allow all following traffic to pass. Do not exceed the legal speed limit set in your state or municipality for agricultural tractors. Always stay alert when transporting the tractor and mower on public roads. Especially in busy cities, the boom extends to right farther then the tractors width, so be careful there are no bystanders, poles, large obstructions or any vehicles that may be in path of the mower head or boom. Use caution and reduce speed if other vehicles or pedestrians are in the area. *OPS-B- 0016*

⚠ DANGER When transporting Boom Mower on a truck or trailer, the height or width may exceed legal limits when the boom is in the transport position. Contact with side or overhead structures or power lines can cause property damage or serious injury or death. If necessary lower boom to reduce height and/or remove mowing head to reduce width to the legal limits. (SBM-8)

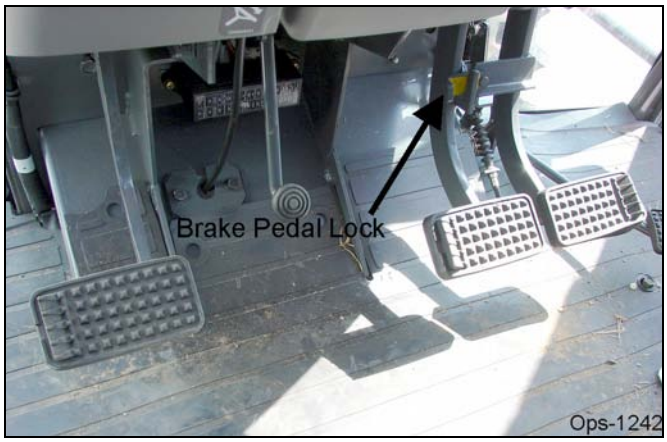


⚠ DANGER Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)

⚠WARNING Make certain that the “Slow Moving Vehicle” (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights and follow all local traffic regulations. (SG-6)



Reduce speed before turning or applying the brakes. Ensure that both brake pedals are locked together when operating on public roads. *OPS-U- 0023_TK*



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LOADING PROCEDURE

LOADING BOOM MOWER: The boom will swing out in front of the tractor, the head will sit on the 5th wheel of the deck. You can swing the boom out front just prior to loading onto the truck, CAUTION, manipulate the boom to clear the back side of the front tire. Keep the mower low to the ground and level for stability.
Rotating cylinder BOLT to remove: The head can now turn freely, but be CAREFUL and not let go before sitting it down, it can rotate 360 degees and contact the front of the tractor pump cover.
Caution: When rotating the boom over the front wheel, raise the boom and watch the cylinder to keep it clear from the tire. The boom and dipper will arch nicely over the the back of the front tire while setting the cutter onto the truck 5th wheel.
Ops-1218

13.2 Hauling the Tractor and Implement

Before transporting a loaded tractor and implement, measure the height and width dimensions and gross weight of the complete loaded unit. Ensure that the load will be in compliance with the legal limits set for the areas that will be traveled through. *OPS-U- 0024_TK*

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Use adequately sized and rated trailers and equipment to transport the tractor and implement. Consult an authorized dealer to determine the proper equipment required. Using adequately sized chains, heavy duty straps, cables and/or binders, securely tie down both the front and rear of the tractor utilizing the proper tie down locations as specified by DOT and trucking or local regulations. *OPS-U- 0025 TK*

Arrange the chains so that when tightened, the chains are pulling downward and against themselves. Carefully tighten the securing chains or other fasteners using boomers or binders to apply maximum tension. Use extreme care when attaching and removing the securing devices as the extreme tension involved when released has the potential to inflict serious injury.

While hauling the tractor and implement, make occasional stops to check that the tractor and implement have not moved or shifted and that the securing chains have maintained tension. If during transport a hard braking, sharp turning, or swerving action was performed, stop at the next safe location to inspect the security of the load.

NOTE: *Always transport per you state law regulations for tie down requirements. OPS-U- 0026_TK*

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MAINTENANCE SECTION

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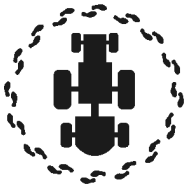
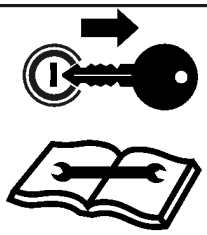
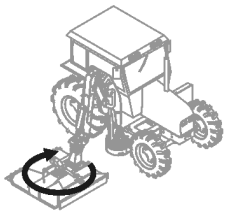
MAINTENANCE

HAZARDS WITH MAINTENANCE OF IMPLEMENT

				
Periodically inspect all moving parts, lubricate drivelines, and tighten all fasteners	Lower mower head to ground or block up before servicing	Stop engine remove key before conducting maintenance	Set mower head securely on the ground before servicing blades	Thrown Objects Hazard Ensure blades rotate clockwise viewed from above mower head

⚠WARNING **AVOID SERIOUS INJURY OR DEATH FROM COMPONENT FAILURE BY KEEPING IMPLEMENT IN GOOD OPERATING CONDITION IN PERFORMING PROPER SERVICE, REPAIRS AND MAINTENANCE.**

BEFORE PERFORMING SERVICE, REPAIRS AND MAINTENANCE ON THE IMPLEMENT:

- **STOP ENGINE AND PTO**, engage parking brake, lower implement, allow all moving parts to stop and remove key before dismounting from tractor.
- **PLACE** implement on ground or securely block up raised equipment. Use large blocks on soft or wet soil.
- **PUSH** and **PULL** Remote Hydraulic Cylinder lever to relieve hydraulic pressure.
- **DISCONNECT Pump solenoid valve or PTO driveline connection before servicing mower head**.
- **WEAR SAFETY GLASSES, PROTECTIVE GLOVES** and follow **SAFETY PROCEDURES** when performing service, repairs and maintenance on the implement:
- Always **WEAR** protective **GLOVES** when handling blades, knives, cutting edges or worn component with sharp edges.
- Always **WEAR GLOVES** and **SAFETY GLASSES** when servicing hot components
- **AVOID CONTACT** with hot hydraulic oil tanks, pumps, motors, valves and hose connection surfaces.
- **SECURELY** support or **BLOCK UP** raised implement, framework and lifted components before working underneath equipment.
- **FOLLOW INSTRUCTIONS** in maintenance section when replacing hydraulic cylinders to prevent component falling.
- **STOP** any implement movements and **SHUT-OFF TRACTOR** engine before doing any work procedures.
- **USE** ladder or raised stands to reach high equipment areas inaccess ble from ground.
- **ENSURE** good footing by standing on solid flat surfaces when getting on implement to perform work.
- **FOLLOW** manufacturer's instructions in handling oils, solvents, cleansers, and other chemical agents.
- **DO NOT** change any factory-set hydraulic calibrations to avoid component or equipment failures.
- **DO NOT** modify or alter implement, functions or components.
- **DO NOT WELD** or repair rotating mower components. These may cause vibrations and component failures being thrown from mower.

PERFORM SERVICE, REPAIRS, LUBRICATION AND MAINTENANCE OUTLINED IN IMPLEMENT MAINTENANCE SECTION:

- **INSPECT** for loose fasteners, worn or broken parts, leaky or loose fittings, missing or broken cotter keys and washers on pins, and all moving parts for wear.
- **REPLACE** any worn or broken parts with authorized service parts.
- Inspect mower blade spindle to ensure bearing preload. If loose repair before operating.
- **LUBRICATE** unit as specified by lubrication schedule
- **NEVER** lubricate, adjust or remove material while it is running or in motion.
- **TORQUE** all bolts and nuts as specified.

BLADE INSPECTION:

- Inspect blade carrier and blades daily.
- Check blade and blade carrier BOLT TORQUE daily. Loose bolts can cause blade or blade bolt failures.
- REPLACE, bent, damage, cracked and broken blades immediately with new blades.
- **AVOID** blade failures and thrown broken blades. **DO NOT** straighten, weld, or weld hard-facing blades.

SAFETY SHIELDS, GUARDS AND SAFETY DEVICES INSPECTION:

- **KEEP** all Deflectors, Chain Guards, Steel Guards, Gearbox Shields, and PTO integral shields, Bands, Side Skirts and Skid Shoes in place and in good condition.
- **REPLACE** any missing, broken or worn safety shields, guards and safety devices.
- Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.
- Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. ***PN HMBM-01***

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PARTS INFORMATION

PARTS INFORMATION

Terrain King mowers use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drivetrain components, and bearings. These parts are made and tested to Terrain King specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of “will fit” parts may reduce mower performance, void mower warranties, and present a safety hazard. Use genuine Terrain King mower parts for economy and safety. (SPTK-1)

SEE YOUR TERRAIN KING DEALER

Lubrication Information

Before operating your Implement, take the time to inspect and repair any damage to the machine or tractor. Only a minimum of time and effort is required to regularly maintain this machine to provide long life and trouble free operation.

BOOM ARM:

Your Boom uses greased bushings that need lubrication, and with proper lubrication should last the lifetime of the machine.

MOWER HEAD:

The Spindle Housing on the Mower head should be serviced daily (every eight hours of operation) to achieve the best operation and the longest life. Fill with NLGI EP#2 Grease.

DRIVELINE:

The driveline powering the hydraulic system may have a universal joint at each end. Check you tractor and locate the grease points on the driveline that is connected from the front engine pulley to the front mounted pump. Grease weekly

⚠WARNING

Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use Cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)

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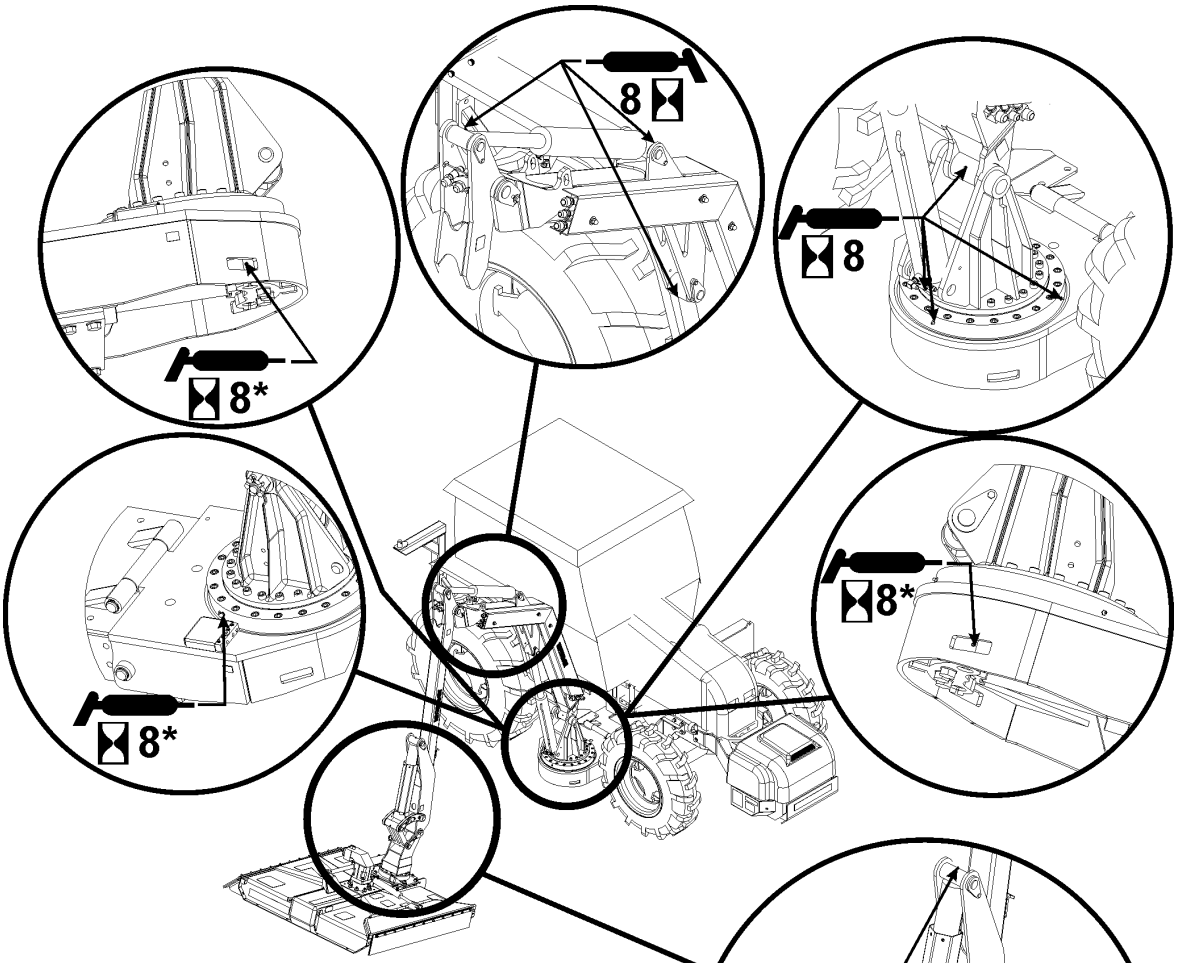

Mower Head & Tilt Linkage Arm

Bearing and Spindle Housing	8 Hours
Tilt Linkage	8 Hours

Boom Arm

Cylinder Pivots	8 Hours
Dipper Pivot Cylinder	8 Hours

Turret Frame

*Bearing Slewing	8 Hours
Swing Rod End	8 Hours

Tractor Driveline	Daily

	Use NLGI EP #2
	Use NLGI EP #2

Mnt-B-0047

*** Turret Bearing Greasing Procedure**

Rotate boom to the forward most position and grease. Move boom perpendicular from tractor and grease. Then swing boom reward and grease for complete coverage.

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Hydraulic Oil, Filters, and Components

Filters and Oil - Change the Pressure Filter after the first 200 hours of operation. Change the filter again at 800 hours; then, change the oil and filters at 1600 hours. After that, continue to change the filter every 800 hours and the oil every 1600 hours. Use hydraulic oil Chevron 1000 THF or equivalent.

Note: *Your ambient temperature and operating conditions may require a different viscosity oil. Please consult the oil manufacturer for proper specifications.*

Keep all hoses and adapters tight. Repair any leaks immediately. Do not overtighten hose end fittings. Tighten to specifications only. (See Chart Below)

Check the hydraulic oil level daily.

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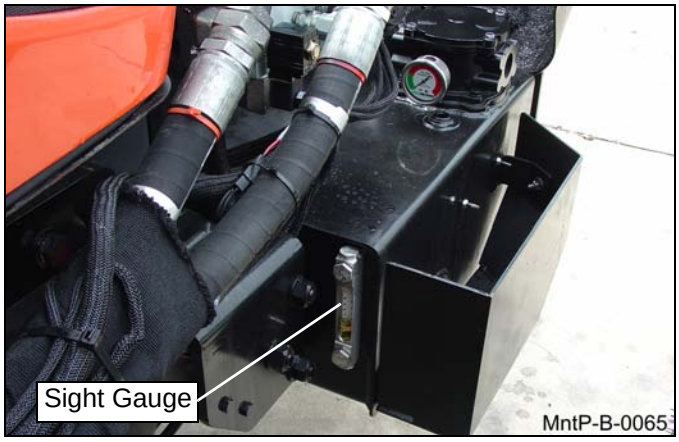

RECOMMENDED HOSE END TORQUE VALUES FOR 37 DEGREE ANGLE STEEL HOSE END FITTINGS

DASH SIZE	NOMINAL SIZE (IN.)	TORQUE (IN.LBS.)	VALUE* (FT.LBS.)
-4	1/4	140	12
-6	3/8	230	19
-8	1/2	450	38
-10	5/8	650	54
-12	3/4	900	75
-16	1	1200	100
-20	1-1/4	1600	133
-24	1-1/2	2000	167
-32	2	2800	233

* Straight threads do not always seal better when higher torques are used. Too much torque causes distortion and may lead to leakage.

Mnt-B-0004

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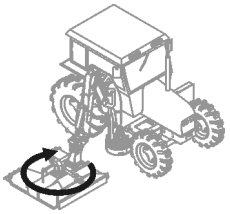
Blades

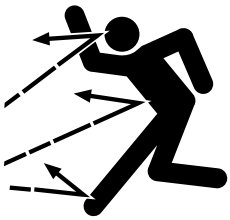
Check the Blades for cracks and wear and Blade Bolts for tightness, daily. Blades should be replaced when they are worn excessively, bent, deformed, or out of balance.

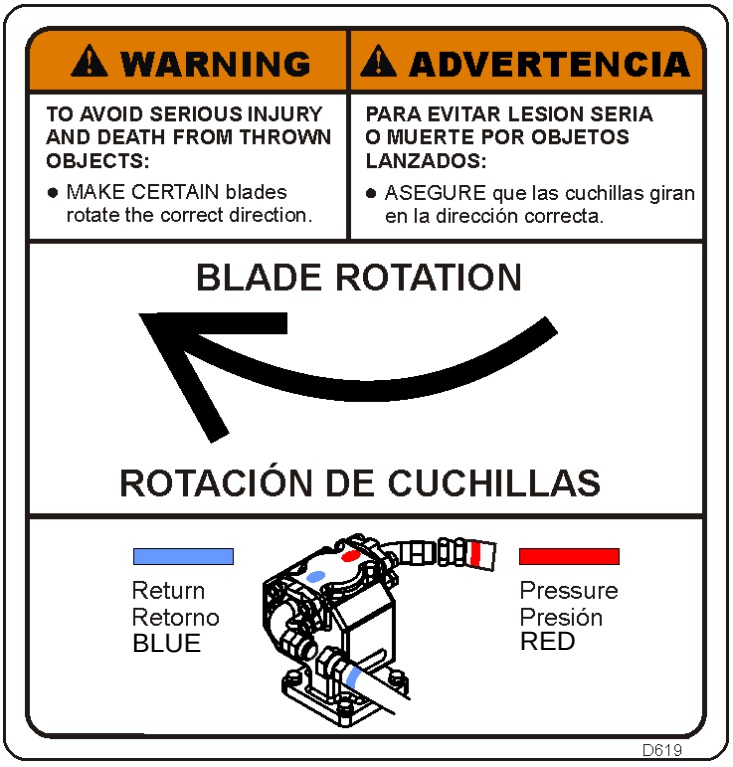
⚠ CAUTION Blades should always be replaced in pairs. Blades of different weights can cause serious imbalance and damage to the machine and personnel. When replacing blades, take care to replace the blade bolts, nuts, and washers.

Important Make sure the mower blades are turning clockwise when looking down from the top of the mower. Follow the color coding on the hydraulic hoses and fittings to make sure the motor and hydaulics hoses are assembled properly. Connect the red hose connection only to red fitting. Connect the blue hose connection only to the blue fitting. The blade rotation on the leading edge of the mower should discharge the cut material away from the tractor and operator.



⚠ WARNING If the leading edge of the mower blades are rotating backwards they can discharge material toward the operator. If this occurs discontinue mowing immediately and revers the direction of the motor rotation by correctly installing the motor pressure and return hoses. Contact your dealer or Alamo Industrial for specific information on the hose routing.





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Hardware

Most nuts and bolts will stay tight and therefore need only periodic checking. However, the following nuts and bolts are extremely important and should receive special attention:

Spindle Housing Bolts:Tighten to 400 Ft./Lbs. Torque

Blade Bolts:Tighten to 400 Ft./Lbs. Torque

Blade Bar To Spindle Bolts:Tighten to 400 Ft./Lbs. Torque

WARNING Be certain to clamp or securely support the Spindle Housing and subassemblies to prevent injuries to hands and feet due to inadvertent dropping or falling over.

WARNING Always wear safety glasses and gloves to prevent eye and hand injury when chiseling or hammering on metal components. Hardened metal will chip unexpectedly.

WARNING An assembled spindle housing is quite heavy. Use a hoist or get help to handle them safely. Lift carefully and properly using your legs to lift - NOT YOUR BACK.

Cylinder Rod Maintenance

It is important to visually inspect the hydraulic cylinder rods daily before use. It is highly recommended that while the machine is stored or getting very little use that a protectant is applied to the hydraulic cylinder rods to prevent degradation. If the machine receives more frequent use, be sure to fully cycle each cylinder function so that the cylinder rod is coated by the systems hydraulic fluid. Depending on your operating environment it may be necessary, under normal operating conditions, to apply a protective lubricant to the cylinder rods for protection against rust and pitting. Hydraulic fluid may provide a suitable amount of protection, but remember any protectant can attract dust and debris so attention must be given to the cylinder rods daily. Also remember that any other protectant must be compatible with hydraulic fluid. Terrain King is not responsible for rust or pitting of the cylinder rod due to weather exposure or impacts from normal operation or mounting. If hydraulic cylinders and or the cylinder rods are damaged as a result of the rods rusting or pitting, the hydraulic cylinders and rods will not be covered under warranty by Terrain King.

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Boom Cylinder Removal and Replacement Instructions

1. Clear the area of all personnel before lowering the boom mower head.
2. From the tractor seat with your seat belt fastened around you, Lower the boom mower head to the ground. Extend the boom to the furthest reach and lower the mower head flat on the ground. DO NOT attempt to replace the cylinders with the boom in the raised or transport position.
3. Shut off the tractor, engage the parking brake, place the tractor transmission in the park position, and remove the key before dismounting.
4. Allow the system to cool to room temperature before removing any hydraulic components
5. Wear Safety glasses and impenetrable gloves when working with hydraulic hoses and fittings.
6. Release all oil pressure from the hydraulic circuit by manually stroking each valve section with the tractor engine off. Utilize the Manual Override function if the unit is equipped with an electric over hydraulic valve.
7. Utilize blocks, jack stands or a suitable over head hoist to support the weight of the boom section and remove pressure form the cylinder mounting pins.
8. Check to see that the cylinder to be replaced is not under pressure by moving the cylinder pins by hand. The pins should be loose and should slide form the pin bore easily. If the pins are tight and cannot be moved, the cylinder may be under pressure. Make sure the boom components are properly supported and that the pressure is relived from the circuit.
9. Cylinder assemblies are heavy and can fall when the pins are removed. Support the hydraulic cylinder with a suitable hoist or jack.
10. Slowly loosen the hydraulic connections to the cylinder. Carefully unscrew hose fitting and allow any remaining pressure to bleed off. Use Extreme Care. Oil must be cool, and the technician should stand to the side to prevent exposure to any hydraulic oil. Always consult the Material Safety Data Sheet and wear any required Personal Protective Equipment. A catch pan may be required to retain any spilled oil.
11. Cap both ends of the fitting with suitably sized metal caps.
12. Remove the cylinder pins starting with the ROD end cylinder pin. Make sure the cylinder is properly supported, and remove the base end cylinder pin. The cylinder may be heavy, use proper lifting techniques to lift and handle the cylinder. If needed, get assistance from another person to safely lift the cylinder from the machine.
13. Measure the distance between the cylinder pin holes and extend the new cylinder the correct length prior to attempting an installation.
14. Install the new cylinder in place and install both cylinder pins and retaining hardware.
15. Remove the metal caps, and re-install the hydraulic hoses.
16. Check the hydraulic reservoir of the boom mower to ensure there is sufficient oil. Follow the manufactures recommendations for proper oil type and filtering techniques and requirements to add oil to the system.
17. Clear the area of all persons prior to starting the tractor.
18. Consult the Operator's Manual for instruction in regard to the proper operating procedure.
19. From the tractor seat, with the seat belt fastened, operate the boom to ensure proper operation of the boom function.
20. From the tractor seat, with the seat belt fastened, operate the boom controls to fully extend and retract the new cylinder several times to purge any trapped air from the system.
21. From the tractor seat, with the seat belt fastened, look for signs of and oil leak. If an oil leak is observed, shut the tractor down and follow the steps to remove pressure from the hydraulic circuit. Identify the source of the leak, and resolve the issue.
22. Upon completion of the required repairs, return to Step # 16 to recheck the cylinder for proper operation.

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Hydraulic Component Maintenance Schedule

	Hours of Operation											
Component	**Installation**	**200**	**400**	**600**	**800**	**1000**	**1200**	**1400**	**1600**	**1800**	**2000**	**2200**
Pump Drive Shaft Check and Lubricate	x	x	x	x	x	x	x	x	x	x	x	x
Pump Mounting Bolt torque check (Inspect Daily)	x	x	x	x	x	x	x	x	x	x	x	x
Charge Pump Filter	Installation	x			x				x			
Pressure Filter to the Control Valve	Installation	x			x				x			
Return Canister Filter Element	Installation	x			x				x			
Hydraulic Oil Change	Installation	x							x			
Hydraulic Oil Particle Count Testing	x	x			x				x			
Hydraulic Tank Breather Filter	Installation	Inspect							Replace			
Hydraulic Tank Suction Screen	Installation	Inspect							Inspect			
Hydraulic Hose Inspection/Replacement	Installation	Inspect	Inspect	Inspect	Inspect	Inspect	Inspect	Inspect	Inspect	Inspect	Inspect	Inspect
Cooling Fan Clean and Inspect	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily
Check Hydraulic Fluid Level (Inspect Daily)	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily
Mower Blades Replace (INSPECT DAILY)		x	x	x	x	x	x	x	x	x	x	x
Blade Bolts Replace (INSPECT DAILY)		x	x	x	x	x	x	x	x	x	x	x
Blade Bar Assembly Replace	Installation					x					x	
Spindle Lube Replacement (INSPECT DAILY)	x					x					x	
Spindle Bearing Pre-load Inspection	x	x	x	x	x	x	x	x	x	x	x	x
Mower Debris Guard Inspect/Replace	x	x	x	x	x	x	x	x	x	x	x	x
Pivot Point Lubrication	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily
King Pin Bearing Replacement	Installation								x			
Pivot Pin Bearing replacement (Steel)	Installation								x			
Pivot Pin Bearing Replacement (Fiber)	Installation					x					x	
Inspect Operation And Safety Decals Replace when faded, torn or missing.	x	x	x	x	x	x	x	x	x	x	x	x

Repeat the Maintenance Schedule based on the hours indicated for the life of the machine

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MAINTENANCE

LEXAN Sheet Cleaning Recommendations

These cleaning recommendations apply to all Lexan polycarbonate sheet products, including, but not limited to, Lexan solid sheet and signs, Lexan coated Margard* sheet and Lexan multiwall sheet.
Periodic cleaning using correct procedures can help to prolong service life. For cleaning, it is recommended that the following instructions be adhered to:

Cleaning Procedure for Small Areas - Manual

1. Gently wash sheet with a solution of mild soap and lukewarm water, using a soft, grid-free cloth or sponge to loosen any dirt or grime.
2. Fresh paint splashes, grease and smeared glazing compounds can be removed easily before drying by rubbing lightly with a soft cloth using petroleum ether (BP65), hexane or heptane. Afterwards, wash the sheet using mild soap and lukewarm water.
3. Scratches and minor abrasions can be minimized by using a mild automobile polish. We suggest that a test be made on a small area of Lexan sheet with the polish selected and that the polish manufacturer's instructions be followed, prior to using the polish on the entire sheet.
4. Finally, thoroughly rinse with clean water to remove any cleaner residue and dry the surface with a soft cloth to prevent water spotting.

Cleaning Procedure for Large Areas - Automated

1. Clean the surface using a high-pressure water cleaner (max. 10Obar or 1,450psi) and/or a steam cleaner. We suggest that a test be made on a small area, prior to cleaning the entire sheet
2. Use of additives to the water and/or steam should be avoided.

Other Important Instructions for All Lexan Sheets:

- Never use abrasive or highly alkaline cleaner on Lexan polycarbonate materials.
- Never use aromatic or halogenated solvents like toluene, benzene, gasoline, acetone or carbon tetrachloride on Lexan polycarbonate materials.
- Use of incompatible cleaning materials with Lexan sheet can cause structural and/or surface damage.
- Contact with harsh solvents such as methyl ethyl ketone (MEK) or hydrochloric acid can result in surface degradation and possible crazing of Lexan sheet.
- Never scrub with brushes, steel wool or other abrasive materials.
- Never use squeegees, razorblades or other sharp instruments to remove deposits or spots.
- Do not clean Lexan polycarbonate in direct sunlight or at high temperatures as this can lead to staining.
- For all mentioned chemicals consult the manufacturer's material safety data sheet (MSDS) for proper safety precautions.

Additional Important Considerations for Multiwall, Corrugated and Sign Sheet:

- Cleaners and solvents generally recommended for use on polycarbonate are not necessarily compatible with the UV-protected surfaces of Lexan multiwall, corrugated and sign polycarbonate materials.
- Do not use alcohols on the UV-protected surfaces of Lexan sheet.
- Never clean the Dripgard surface of Lexan multiwall and corrugated sheets

Graffiti removal from Lexan* Margard* sheet

- Use butyl cellosolve with a clean, soft cloth to remove paints, marking pen inks and lipstick. Afterwards, wash the sheet using mild soap and lukewarm water, then rinse with clean water to remove residue and dry with a soft cloth.
- Masking tape and adhesive tape work well for lifting off old, weathered paints.
- To remove labels stickers, the use of kerosene or petroleum ether (BP65) is generally effective. If the solvent does not penetrate the sticker material, apply heat using a hair dryer to soften the adhesive and promote removal. Afterwards the cleaning procedure for small areas as outlined above

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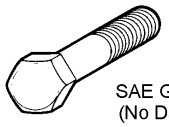
Proper Torque for Fasteners

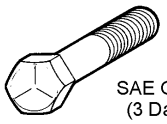
The chart lists the correct tightening torque for fasteners. When bolts are to be tightened or replaced, refer to this chart to determine the grade of bolts and the proper torque except when specific torque values are assigned in manual text.
RECOMMENDED TORQUE IN FOOT POUNDS UNLESS OTHERWISE STATED IN THE MANUAL*
NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal engine oil. They do not apply if special graphited or molydisulphide greases or other extreme pressure lubricants are used. This applies to both UNF fine and UNC coarse threads.

TORQUE SPECIFICATIONS

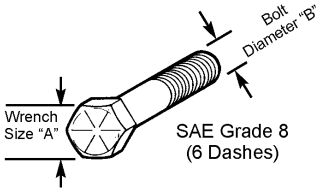
AMERICAN
Bolt Head Markings



SAE Grade 2
(No Dashes)



SAE Grade 5
(3 Dashes)

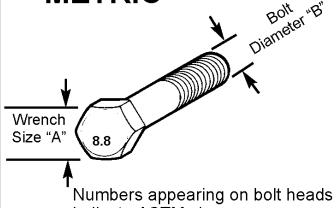


SAE Grade 8
(6 Dashes)

Proper torque for American fasteners.
Recommended Torque in Foot Pounds (Newton Meters).*

WRENCH SIZE (IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 2O UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 28 UNF	6 (8)	10 (13)	14 (18)
1/2	5/16 - 18 UNC	11 (15)	17 (23)	25 (33)
1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
9/16	3/8 - 16 UNC	20 (27)	31 (42)	44 (60)
9/16	3/8 - 24 UNF	23 (31)	35 (47)	49 (66)
5/8	7/16 - 14 UNC	32 (43)	49 (66)	70 (95)
5/8	7/16 - 20 UNF	36 (49)	55 (75)	78 (106)
3/4	1/2 - 13 UNC	49 (66)	76 (103)	106 (144)
3/4	1/2 - 20 UNF	55 (75)	85 (115)	120 (163)
7/8	9/16 - 12 UNC	70 (95)	109 (148)	153 (207)
7/8	9/16 - 18 UNF	79 (107)	122 (165)	172 (233)
15/16	5/8 - 11 UNC	97 (131)	150 (203)	212 (287)
15/16	5/8 - 18 UNF	110 (149)	170 (230)	240 (325)
1-1/8	3/4 - 10 UNC	144 (195)	266 (360)	376 (509)
1-1/8	3/4 - 16 UNF	192 (260)	297 (402)	420 (569)
1-5/16	7/8 - 9 UNC	166 (225)	430 (583)	606 (821)
1-5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
1-1/2	1 - 8 UNC	250 (339)	644 (873)	909 (1232)
1-1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
1-1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
1-11/16	1-1/8 - 7 UNC	354 (480)	795 (1077)	1288(1745)
1-11/16	1-1/8 - 12 UNF	397 (538)	890 (1206)	1444 (1957)
1-7/8	1-1/4 - 7 UNC	500 (678)	1120 (1518)	1817 (2462)
1-7/8	1-1/4 - 12 UNF	553 (749)	1241 (1682)	2013 (2728)
2-1/16	1-3/8 - 6 UNC	655 (887)	1470 (1992)	2382 (3228)
2-1/16	1-3/8 - 12 UNF	746 (1011)	1672 (2266)	2712 (3675)
2-1/4	1-1/2 - 6 UNC	870 (1179)	1950 (2642)	3161 (4283)
2-1/4	1-1/2 - 12 UNF	979 (1327)	2194 (2973)	3557 (4820)

METRIC



Numbers appearing on bolt heads indicate ASTM class.

*Use 75% of the specified torque value for plated fasteners. Use 85% of the specified torque values for lubricated fasteners.

Proper torque for Metric fasteners.
Recommended torque in Foot Pounds (Newton Meters).*

WRENCH SIZE (mm) "A"	BOLT DIA. (mm) "B"	ASTM 4.6	ASTM 8.8	ASTM 9.8	ASTM 10.9
8	5	1.8 (2.4)		5.1 (6.9)	6.5 (8.8)
10	6	3 (4)		8.7 (12)	11.1 (15)
13	8	7.3 (10)		21.1 (29)	27 (37)
16	10	14.5 (20)		42 (57)	53 (72)
18	12	25 (34)	74 (100)	73 (99)	93 (126)
21	14	40 (54)	118 (160)	116 (157)	148 (201)
24	16	62 (84)	167 (226)	181 (245)	230 (312)
30	20	122 (165)	325 (440)		449 (608)
33	22		443 (600)		611 (828)
36	24	211 (286)	563 (763)		778 (1054)
41	27		821 (1112)		1138 (1542)
46	30	418 (566)	1119 (1516)		1547 (2096)

Mnt-B-0005

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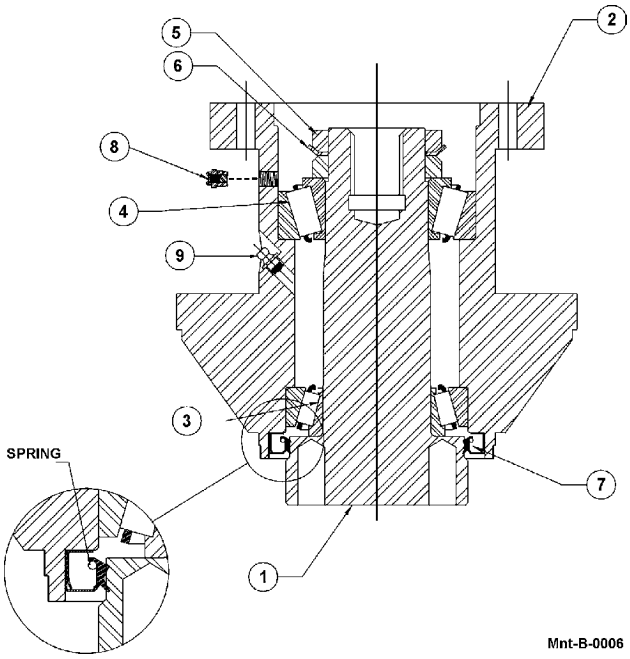
Service of Spindle Housing (FIGURE Mnt-0006)

Remove blade bar or pan.
Remove hydraulic motor.
Remove spindle housing from unit.
Drain remaining oil from housing.
Using a chisel, bend the tang on the lockwasher (6) until it is free from the slot in the nut (5).
Unscrew locknut and remove locknut and lockwasher, and second locknut.
The Spindle should now slide from the Spindle housing, so the Spindle can be removed from the Housing.
Remove the Seal (7) from the Housing
REMOVING BEARINGS:
If replacing bearings:
Remove the old bearings from the Spindle and Housing. Be careful not to damage either the Spindle or Housing in this process.
Turn the spindle housing over and from the bottom side of the spindle housing, using a punch, drive the remaining bearing cup out.
Clean spindle housing, spindle and bearings thoroughly.
When rebuilding the spindle housing assembly, always replace the locknuts, lockwasher, and seal.



INSPECTION:
Bearing and cups:
Inspect bearings and bearing cups for nicks, pitting, discoloration and wear. If any exist, replace bearing and bearing cup.

ASSEMBLY

Make sure all parts are clean and free of any contamination
Install Bearing Cups (3 & 4) into Spindle Housing (2) using a suitable bearing driver to seat the cups. Caution must be taken not to damage the cup or spindle housing, cups must be fully seated. If Cups are damaged during installation or not fully seated, bearing and spindle assembly life are greatly reduced!
Never drive against bearing surface! Never used the mating bearing cone to seat the cup!
Once the Lower Cup is installed, the seal may be installed. The seal should be installed with the spring towards the inside Press seal (7) into spindle housing, make sure seal is fully seated. Be careful not to damage seal!
Press the Lower Cone (3) on the spindle shaft (1) use the proper tool when pressing the bearing onto the shaft, driving against the inner race and not the rollers or cage. Any damage to the bearing will cause premature failures of the bearing and spindle assembly.
Before installing the spindle (with the bearing pressed on it), lubricate the rubber portion of the seal. This will reduce the chance of the Seal being torn by the installation of the spindle and is a necessary step when setting the rolling Torque.
Turn the Spindle Housing Upside Down and insert the spindle (with the bearing pressed onto it) into the spindle housing until the bearing cone contacts the cup in the Housing. During this step take care not to damage the seal.
While supporting the Spindle and Housing turn the assembly over so that the assembly is setting on the spindle.
Install the upper bearing (4) on the spindle shaft (1).
After the Upper Bearing is installed, install the nut (5) with the chamfer facing up. Run the nut down against the bearing, but do not torque the nut at this time. Clamp the spindle Housing in a vise so that the spindle shaft can rotate. Tighten the nut until the spindle shaft has a rolling torque of 25 in-lbs (that is it takes 25 in-lbs to rotate the spindle shaft).
Install the tanged lockwasher (6) with the outside prongs facing upward.
Install the top nut (5) with the chamfer facing down. Block the spindle to keep it from rotating and torque the top

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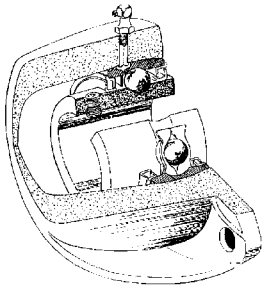
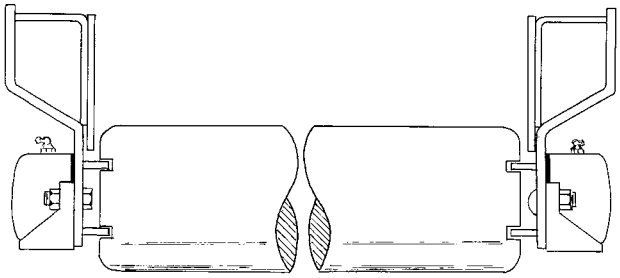
nut to a minimum of 100 ft-lbs. Bend the tang of the lockwasher to fit into one of the grooves of the top nut.
Install vent plug (8) and Grease Fitting (9).
Fill spindle assembly with NLGI EP#2 Grease (Approx 22 oz.)

ROLLER BEARING REPLACEMENT



DETAIL OF ROLLER BEARING



Mnt-B-0029

⚠ CAUTION Securely support mower while removing and installing roller assembly.

If installing a roller with pre assembled bearing and bracket assemblies, remove the old roller, proceed to step 11.

1. Remove roller and both bearing and bracket assemblies from mower. Lift the mower only high enough to remove the roller assembly.
2. Slide bearing and bracket assemblies off each end of roller. If replacing with new bearing and bracket assemblies, proceed to step 9.
3. Remove roller bearing and housing assembly attaching hardware. Remove assembly from bracket. Inspect seal between assembly and bracket for brittleness, cracks, wear and tear. Replace if necessary. If replacing with new roller bearing and housing assemblies, proceed to step 8.
4. Remove grease fitting from the top of bearing housing.
5. Remove bearing from housing by rotating Bearing 90° sideways and line up with notches in Bearing Housing then pull out.
6. Install new bearing into housing. Bearing must be installed with grease hole in bearing aligned with grease fitting hole in housing.
7. Reinstall grease fitting to housing. Grease Fitting must have locking pin installed which inserts into grease hole in bearing when installed. If Grease Fitting does not have a pin, order a new grease fitting. Grease fitting must be tight and seated in grease hole in bearing to prevent bearing from rotating in housing.
8. Attach roller bearing and housing assembly to bracket with seal between housing and bracket.
9. Slide bearing and bracket assemblies on each end of roller.
10. Check bearing for proper installation in housing by gently rocking bearing and bracket assembly in end of roller. Play should be slight to none at all.
11. Install roller and bearing and bracket assemblies on mower.
12. Lubricate roller bearing until lubricant can be seen coming out between roller and bearing housing.

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Saw Blade Head

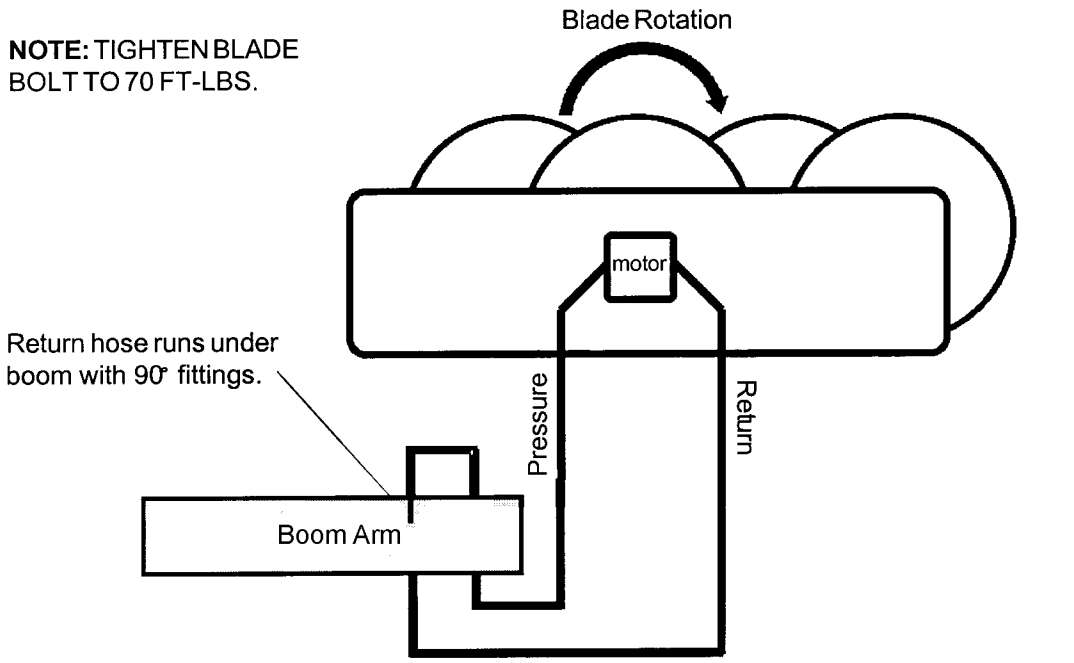
BLADES

For best performance, have blades set and sharpened when they begin to dull. Blades can be touched up with a grinder or file between sharpenings.

To extend the life of the blade, remove resin accumulations. When the resin builds up, the blades will "burn" in the cut, causing the blades to overheat and warp. When cutting some types of trees, blades will need to be cleaned every few hours. To remove the resin, use oven cleaner or lacquer thinner with a Scotch-Brite pad or steel wool. Apply these products carefully since many of them will remove paint from your Saw Blade Unit. Always follow manufacturer's instructions for safe use.

Blades should turn clockwise when viewed from the top.

See illustration below for hose routing.



Mnt-B-0009

LUBRICATION

Grease each spindle with one pump of high quality lithium grease weekly. More than one pump is unnecessary and will cause extra grease to spill from the relief.

Grease fittings are located in front of the machine, just above the blades.

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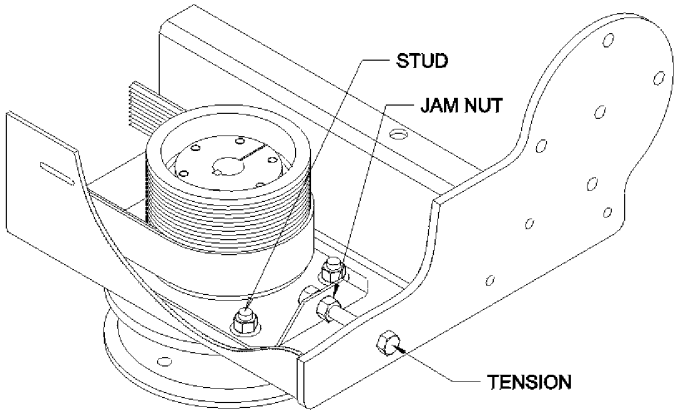
Belt Tension Adjustment (Figure Mnt-B-0010)

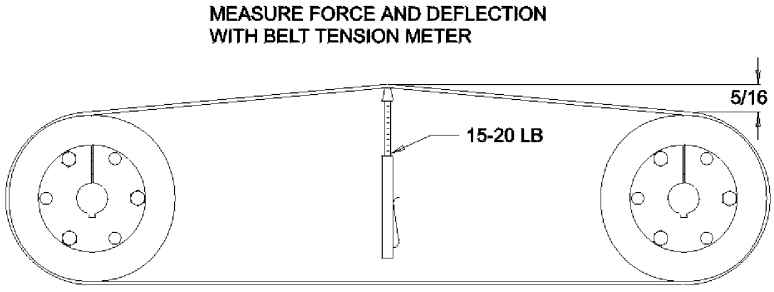
Loosen nuts on the 4 studs and the jam nut.
Use a hand wrench or socket to tension the belts.

⚠ CAUTION Never use power or air equipment to tighten belt! This could cause damage to belt, sheave, shaft and bearings

Once the belts begin to tighten, small adjustments will produce large changes in tension.
Belts should be tensioned 15-20 lbs of force for 5/16 inches deflection.
Tighten nuts on studs and jam nut to hold tension.

BELT TENSION ADJUSTMENT





Mnt-B-0010

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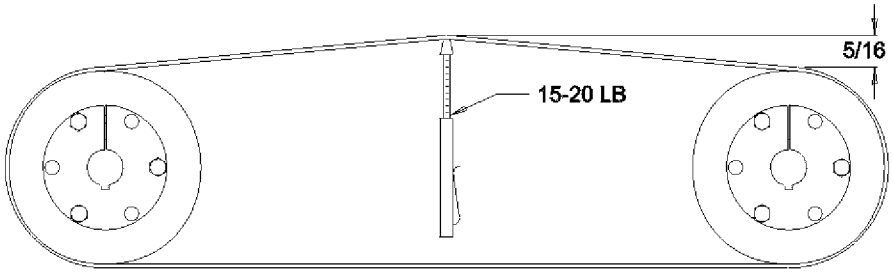
Lubrication:

Grease each spindle with one pump of high quality lithium grease weekly. More than one pump is unnecessary and will cause a mess when extra grease squirts out of the relief.
Grease fittings are on front of machine, just above the blades.

Belts:

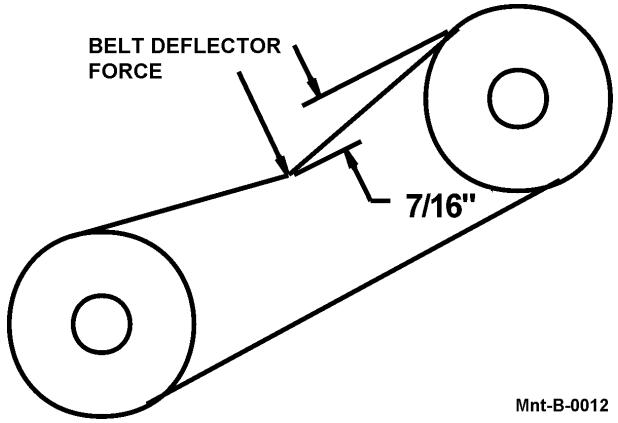
Check the belt tension daily. Your buzzbar is equipped with high performance Micro-V belts that run much tighter than regular V-belts. The belts should be tensioned to 15 to 20 lbs. of force for 5/16 of an inch of deflection.



Mnt-B-0011

If belts begin to slip, check tension.
To tighten the belts, loosen the four nuts that hold the spindle to the body of the machine. Then use a hand wrench or socket to turn the bolt that tensions the belt. Never use power tools to tighten belt. Once the belts begin to tighten, small adjustments will produce large changes in belt tension.
Too much tension can cause premature bearing, sheave, and belt damage.

Flail Mower



Mnt-B-0012

Belt Tension:
When installing new belts, tighten belts to obtain a 16 lb. Belt Deflector Force at 7/16" deflection. After a few hours of operation to allow the belts to seat into the sheave grooves recheck and adjust as needed to obtain an 8 to 12 lb. Belt Deflection Force at 7/16" deflection. Inspect belts and recheck belt tension periodically to maintain an 8 to 12 lb. Belt Deflection Force at 7/16" deflection.

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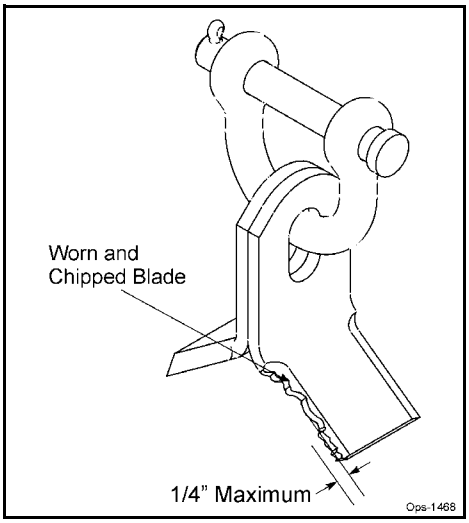
Flail Blades Inspection

DANGER Inspect the Blades daily for abnormal wear. REPLACE ALL BLADES on the carrier IMMEDIATELY if any blades have:

- Become bent or deformed from its original shape, or
- Wear inside the blade bolt hole, or
- Any cracks are visible, or
- Deep gouges in the blade's surface are present, or
- Gouges or chipped areas in the cutting edge are larger than 1/4"(8mm), or
- The material on the leading edge has been worn away by more than 1/4"(8mm)

DO NOT straighten, sharpen, weld or hard-face blades

Failure to replace worn or damaged blades may lead to catastrophic failure of the blades and ejection of the broken part with tremendous force which may cause serious bodily injury or death.



Always replace blades in sets

- Blades that are damaged may indicate severe service or abuse. If one blade is worn or damaged other blades on the same shaft will have been subjected to the same severe service or abuse.
- The Flail rotor turns at speeds exceeding 2000 RPM and is dynamically balanced at the factory. Differences in blade weight between used blades with loss of material from gouges or wear as compared to new blades can cause severe vibration and damage to the Flail rotor. Always replace blades as complete sets.

Important Use only genuine Terrain King replacement blades and fasteners. Other blades and fasteners may not meet the Terrain King requirements and could fail during operation resulting in part being thrown out from under the mower.

CAUTION Never attempt to sharpen blades. ***OPS-U-0044_TK***

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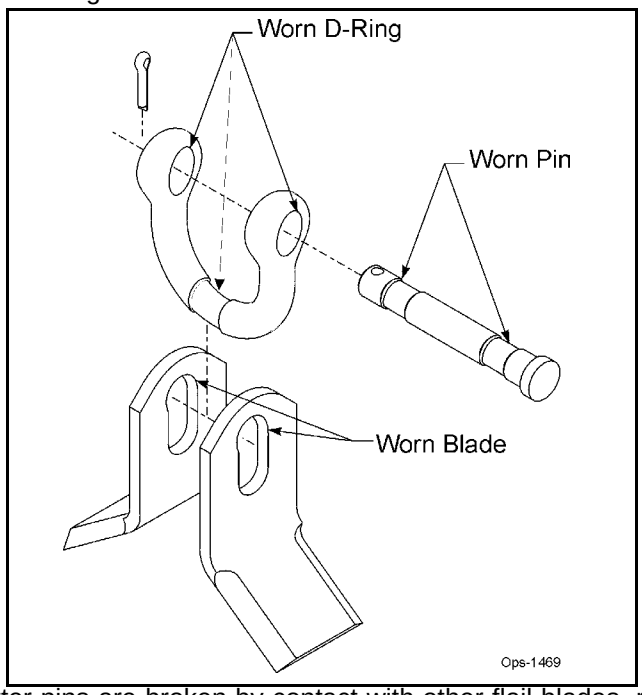
Blade Pins and D-Ring Inspection

Blade Pins and D-Rings daily for wear or damage as follows:

⚠ DANGER Inspect the Blade pins and D-Rings daily for abnormal wear. Make sure the cotter pins are in place and properly spread. REPLACE BLADE Pins and D-Rings IMMEDIATELY if they have:

- Visible cracks or
- If a Pin or D-Ring has visible worn areas, or
- If a Pin or D-Ring has gouges or chipped areas

Failure to replace abnormally worn pins or D-Rings may lead to catastrophic failure and ejection of the broken part which may cause serious bodily injury or death.
Always replace the pins and D-Rings whenever excessive wear is noticed.



Important If the cotter pins are broken by contact with other flail blades, remove the pin and reverse the direction the pin is inserted through the D-Ring so that the cotter pin is on the opposite side of the D-Ring. This will prevent the next set of blades from swinging back and hitting the cotter pin. ***OPS-U-0045***

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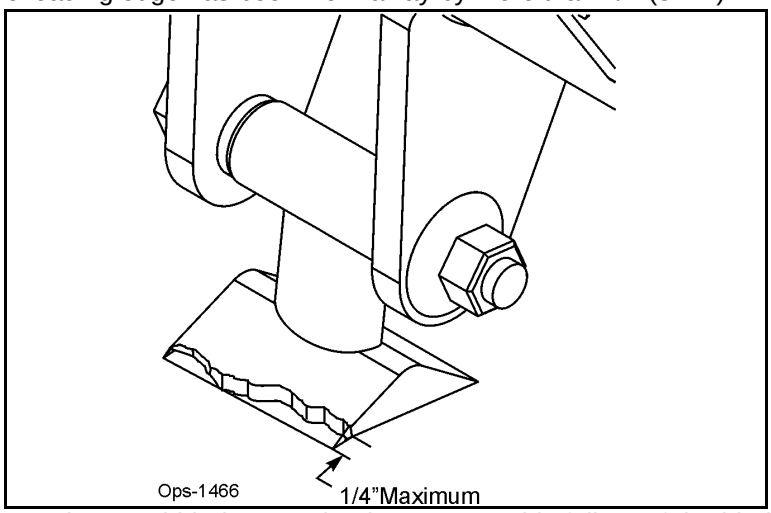
Flail Axe Blades Inspection

DANGER Inspect the Blades daily for abnormal wear. REPLACE ALL BLADES on the carrier IMMEDIATELY if any blades have:

- Become bent or deformed from its original shape, or
- Oval shape wear inside the blade bolt hole, or
- Any cracks are visible, or
- Deep gouges in the blade's surface are present, or
- Gouges or chipped areas in the cutting edge are larger than 1/4"(8mm), or
- The material on the leading edge has been worn away by more than 1/4"(8mm)



Failure to replace worn or damaged blades may lead to catastrophic failure of the blades and ejection of the broken part with tremendous force which may cause serious bodily injury or death.
Always replace blades in sets

- Blades that are damaged may indicate severe service or abuse. If one blade is worn or damaged other blades on the same shaft will have been subjected to the same severe service or abuse.
- The Flail Axe rotor turns at speeds exceeding 2000 RPM and is dynamically balanced at the factory. Differences in blade weight between used blades with loss of material from gouges or wear as compared to new blades can cause severe vibration and damage to the Flail Axe rotor. Always replace blades as complete sets.

Important Use only genuine Terrain King replacement blades, blade bolts and fasteners. Other blades and bolts may not meet the requirements of Terrain King and fail during operation resulting in part failing and being thrown out from under the mower.

CAUTION Never attempt to sharpen blades. ***OPS-U-0042_TK***

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Flail Axe Blade Bolt Inspection

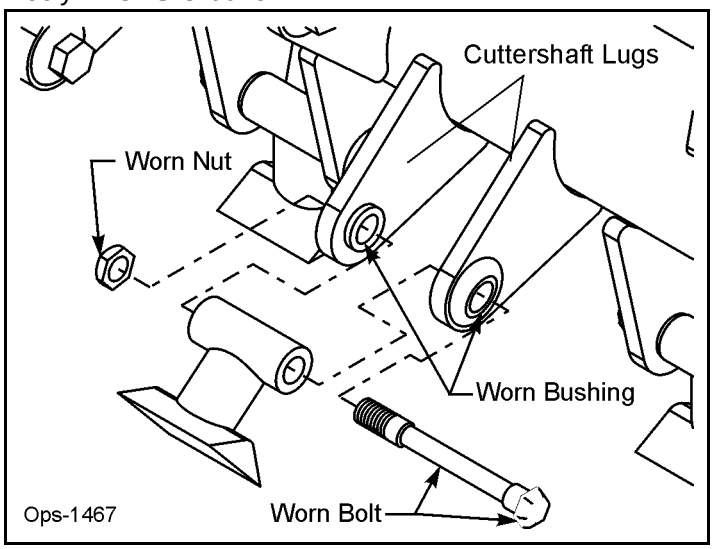
Inspect Blade Bolts daily for wear or damage as follows:

⚠ DANGER Inspect the Blade Bolt daily for abnormal wear. REPLACE ALL BLADE BOLTS on the carrier IMMEDIATELY if any bolts have:

- Visible cracks or
- If the blade bolt is worn or any recessed area is visible on the bolt, or
- If Blade Bolt has gouges or chipped areas. or
- If Bushing fits loose in the Rotor Shaft.

Failure to replace abnormally worn bolts or bushings may lead to catastrophic failure of the blades and ejection of the broken part which may cause serious bodily injury or death.

Always replace Blade Bolts with new bolts and new bushings whenever replacing the Blades. To tighten bolts and nuts, first apply thread lock to nut. Make sure to tighten bolts and nuts just enough to allow the blades to swing freely, and not bend the cuttershaft lugs. If cuttershaft lugs are bent together because of over tightening the blades will not swing freely. *OPS-U-0043*



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General Information on Flail Mower Vibration

FLAIL MOWERS
INFORMATION BULLETIN NO. 5

EXCESSIVE VIBRATION

Vibration is a MONSTER and if allowed to continue unchecked, can cause the complete break-up of a machine in a very short time.

A properly operated Flail Mower will produce very little vibration. If vibration does occur, the mower should be stopped and the trouble corrected, as warranty does not cover failures resulting from continued operation after something happens to cause the mower to vibrate excessively.

Vibration is caused by a rotating part which is out of balance. This could be the cutter shaft or, on those models having a universal slip joint assembly drive shaft, from the drive shaft.

If the two extreme ends of the drive shaft, (the yoke splines which fit on the tractor power take off shaft and on the mower gear box driven shaft), are not parallel, vibration will be evident.

This is because of the mechanics of a universal drive wherein the rotational speed thru a universal joint is not uniform. If the ends of a universal drive shaft are parallel, the uneven rotation effect is cancelled out and the machine being driven will be driven at a uniform rate of speed. However, if the ends are not parallel, the uneven rotation effect may be multiplied, resulting in a speeding up and slowing down of the entire mower system (gear box, extension shaft, pulleys, belt, and cutter shaft) each revolution. This effect can be readily noticed if the mower, while running, is raised to an extreme height on the tractor lift.

For smoothest operation, the tilt of the mower should be adjusted (on a 3-point hitch, by adjusting the length of the top link between the tractor and the mower) so that the ends of the drive shaft are parallel when the mower is down in operating position. Raising the mower, while running, to extreme heights on the lift should be avoided.

To check where the vibration is originating, first be sure the ends of the universal drive shaft are parallel. Then, if vibration is still present, remove the drive belt and run the mower. If vibration is still present, it most likely is coming from and caused by a bent drive shaft. If so, the shaft should be replaced or straightened. If the vibration is gone - the drive portion of the mower is running smoothly - then the vibration is probably coming from the cutter shaft (it could be a pulley out of balance or a faulty belt with a varying cross section, but this is not likely).

The cutter shaft will run out of balance if:

1. Wire, rope, string, rags, etc., around the cutter shaft, are holding the knives in a folded back position. Remove such foreign objects and be sure all knives are free to swing to the extended position.
2. Knives are missing or broken. Replace missing or broken knives.
3. Knife hanger lugs are broken off shaft. This condition usually results from continued operation in contact with large hard objects where the knife hanger lugs themselves are hitting the hard objects. Lugs should be replaced using arc welding equipment so as not to direct too much heat in one area of the shaft.
4. Cutter shaft ball bearings are worn enough to have radial "play" in them. Replace ball bearing and other worn parts to eliminate "play".
5. Shaft is bent. The shafts are straight within a couple of thousandths of an inch when they are made. It is possible that they will become bent in use, such as if the shaft is hooked on a stump while the tractor is moving forward at a good speed.
6. Shafts are operated at improper speed. Rotating shafts have what is known as a natural period of vibration. The same is true of the cutter shafts on the Flail Mowers.

The actual speed at which the harmonic will occur will vary with each mower and each installation. To avoid this harmonic vibration when operating the mower, it may be necessary to adjust the engine speed of the tractor up or down.

Some units have a harmonic vibration which occurs below the nominal operating speed. On these units, it will be noticed that there is always a little vibration at a particular RPM as the mower is being sped up to operating speed. This occurs as the shaft passes through its normal harmonic vibration point. As long as the mower is operated at the proper speed, then harmonic vibration will not be an issue.

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Start up Procedure

1. Read all safety instructions. Decals on the Boom warn you of particular and multiple hazards. Many decals are attached close to part of the Boom where there is a possible hazard. Read and make sure you understand the safety messages before you operate the Boom. Keep all decals clean and readable. Replace lost or damaged decals.
2. Before operating, read all the safety and operating instructions in the Operators Manual for both the tractor and mower.
3. When the hydraulic tank has been filled and the mower unit properly assembled, the unit should be started up. **NOTE:** Make sure that no materials, tools, or jacks, have been left under the mower head. Make sure the front and rear of the mower are properly guarded to prevent any foreign objects from being thrown by the mower. All other workers should be kept a safe distance from the unit before the mower is started.
4. Start the tractor and idle at a slow engine speed until oil is being pumped.
5. Engage the Cutter Control Valve at low engine PTO speed and run the mower slowly for a short period until all air is removed from the hoses. Keep all persons WELL CLEAR of mower since Blades can THROW OBJECTS with great velocity for a considerable distance! KEEP CLEAR!
6. With the area clear of any ground and overhead obstructions, work each cylinder on the boom one at a time, several times, to expel any air in the Hoses and Cylinders.
7. Run the Mower Head for 5 minutes. While the tractor is idling, blocked, wearing protective clothing and eye protection, **CAREFULLY** check for leaking hydraulic fittings, hoses and ports at this point with a piece of cardboard, **DO NOT USE YOUR HAND!** If any are found stop the tractor immediately and correct any leaky connections.
8. Check the fluid level in the Hydraulic Tank on the Tractor, and add oil if required. As the air has been forced out of the Cylinders and Hoses, it goes into the Hydraulic Tank and reduces the oil level.

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INFORMACIÓN DE PARTES

INFORMACIÓN DE PARTES

Cortacéspedes de ALAMO INDUSTRIAL usan balanceado y componentes del sistema de igualdad para los portadores de la lámina, las láminas, los cortador-ejes, los cuchillos, las suspensiones del cuchillo, los rodillos, los componentes del engranajes de conducciòn y los cojinetes. Estas piezas se hacen y se prueban a las especificaciones de ALAMO INDUSTRIAL. Partes de No-genuino “caber” piezas no resuelven constantemente estas especificaciones. El uso de “caber” piezas puede reducir el funcionamiento del cortacéspedes, garantías vacías del cortacéspedes y presentar un peligro de seguridad. ¡Utilice las piezas genuinas de cortacéspedes del ALAMO INDUSTRIAL para la economía y la seguridad! (SPAM-1 SP)

VEA A SU VENDEDOR ALAMO INDUSTRIAL

NOTA: Para ver las calcomanias en español porfavor de referirse a la pagina 1-22 en la seccion de seguridad en ingles.

NOTA: *Si necessita un manual completamente en español por favor de ponerse en contacto a; Translations, dirección 1502 E. Walnut Street Seguin, TX 78155; Fax: (830) 372-9529*

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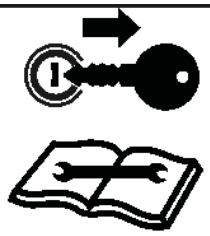
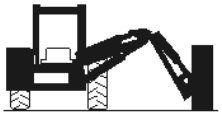
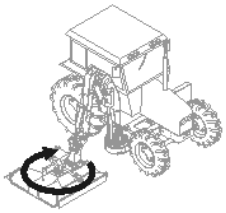
SEGURIDAD

RIESGOS CON EL MANTENIMIENTO DEL IMPLEMENTO

				
Inspeccione periódicamente todas las partes móviles, lubrique las líneas de conducción y ajuste todas las sujeciones.	Baje el cabezal de la cortadora hasta el suelo o bloquéelo antes de repararlo.	Apague el motor. Quite la llave antes de realizar tareas de mantenimiento.	Baje el cabezal a una posición segura sobre el suelo antes de reparar las cuchillas.	Riesgo de objetos arrojados por la cortadora. Asegúrese de que las cuchillas giren en sentido horario vistas desde arriba del cabezal de la cortadora.

ADVERTENCIA **MANTENGA LOS IMPLEMENTOS EN BUENAS CONDICIONES DE FUNCIONAMIENTO, A TRAVES DE UN SERVICIO, REPARACIÓN O MANTENIMIENTO APROPIADO.**

ANTES DE REALIZAR TAREAS DE SERVICIO, REPARACIÓN Y MANTENIMIENTO DEL IMPLEMENTO:

- **APAGUE EL MOTOR Y EL PTO**, coloque el freno de mano, descienda el implemento, espere a que se detengan todas las partes móviles y quite la llave antes de bajarse del tractor.
- **COLOQUE** el implemento sobre el suelo o trabe de manera segura los equipos elevados. Utilice bloques grandes sobre suelo blando o húmedo.
- **EMPUJE** y **JALE** la palanca del Cilindro Hidráulico Remoto para liberar la presión hidráulica.
- **DESCONECTE** la válvula de solenoide de la bomba o la conexión de la línea de conducción de la TDF de antes de reparar el cabezal de la cortadora.
- **USE GAFAS DE SEGURIDAD y GUANTES PROTECTORES y siga todos los PROCEDIMIENTOS DE SEGURIDAD al realizar tareas de servicio, reparación y mantenimiento sobre el implemento:**
- Siempre **USE GUANTES** protectores al manipular las hojas, cuchillas, bordes filosos o un componente desgastado con bordes filosos.
- Siempre **USE GUANTES** y **GAFAS DE SEGURIDAD** al reparar componentes en caliente
- **EVITE EL CONTACTO** con tanques de aceite hidráulico, bombas, motores, válvulas y superficies de conexión de mangueras calientes.
- **SUJETE FIRMEMENTE** o **TRABE EN POSICIÓN ELEVADA** todos los implementos, bastidores y componentes elevados antes de trabajar sobre los equipos que se encuentran debajo.
- **SIGA LAS INSTRUCCIONES** de la sección de mantenimiento al reemplazar los cilindros hidráulicos para evitar la caída de componentes.
- **DETENGA** el movimiento de todos los implementos y **APAGUE EL MOTOR DEL TRACTOR** antes de realizar ninguna tarea.
- **USE** una escalera o gradas elevadas para alcanzar áreas altas del equipo a las que no se pueda acceder desde la tierra.
- **ASEGÚRESE** de estar bien apoyado sobre superficies sólidas planas al subirse al implemento para realizar tareas.
- **SIGA** las instrucciones del fabricante sobre cómo manipular los lubricantes, solventes, limpiadores y otros agentes químicos.
- **NO** cambie ninguna calibración hidráulica de fábrica para evitar fallas de los componentes o equipos.
- **NO** modifique o altere el implemento, las funciones o componentes.
- **NO SUELDE** o repare los componentes de la cortadora. Esto puede causar vibraciones y fallas de los componentes que se desprendan de la cortadora.

REALICE LAS TAREAS DE SERVICIO, REPARACIÓN, LUBRICACIÓN Y MANTENIMIENTO QUE SE DESCRIBEN EN LA SECCIÓN DE MANTENIMIENTO DEL IMPLEMENTO:

- **INSPECCIONE** el implemento para detectar sujeciones sueltas, partes gastadas o rotas, ajustes sueltos o con filtraciones, que los pasadores tengan chavetas y arandelas, y las partes móviles para detectar el desgaste.
- **REEMPLACE** todas las partes gastadas o rotas con repuestos autorizados.
- Inspeccione el huso de la cuchilla de la cortadora para asegurar la carga previa de los rodamientos. Si está suelto, repárelo antes de operar.
- **LUBRIQUE** la unidad tal como se especifica en el cronograma de lubricación.
- **NUNCA** lubrique, ajuste o quite material mientras el equipo está en funcionamiento o movimiento.
- **AJUSTE** todas las tuercas y pernos tal como se especifica.

INSPECCIÓN DE CUCHILLAS:

- Inspeccione el soporte de la cuchilla y las cuchillas a diario.
- Inspeccione el AJUSTE DE LOS PERNOS del soporte de la cuchilla y las cuchillas a diario. Los pernos sueltos pueden causar fallas de la cuchilla o del perno de la cuchilla.
- **REEMPLACE** las cuchillas dobladas, dañadas, agrietadas o rotas inmediatamente por cuchillas nuevas.
- **EVITE** fallas de las cuchillas y que vuelen trozos de cuchillas. NO enderece, suelde o suelde con superficies rígidas.

INSPECCIÓN DE PROTECTORES DE SEGURIDAD, GUARDAS Y DISPOSITIVOS DE SEGURIDAD:

- **MANTENGA** en su lugar y en buen estado todos los deflectores, protectores de cadena, protectores de acero, cubiertas de caja de engranajes, cubiertas integrales de PTO, bandas, faldones laterales y zapatas antideslizantes.
- **REEMPLACE** cualquier protector, cubierta o dispositivo de seguridad faltante, roto o gastado.
- El escape del motor, al igual que algunos de sus componentes, y determinados elementos del vehículo contienen o emiten agentes químicos que el estado de California ha determinado que causan cáncer, defectos de nacimiento y otros daños reproductivos.
- Las terminales de baterías y los accesorios relacionados contienen plomo y componentes de plomo, que el estado de California ha determinado son químicos que causan cáncer, defectos de nacimiento u otros daños reproductivos. ***PN HMBM-01 SP***

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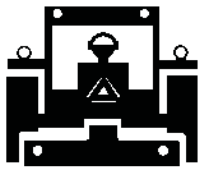
SEGURIDAD

RIESGOS EN TRANSPORTE

		
Use señales de SMV (vehículo de movimiento lento) y balizas	Riesgo de pérdida de control al detenerse	Riesgo de pérdida de control al acelerar

ADVERTENCIA **PARA EVITAR LESIONES GRAVES O LA MUERTE AL REMOLCAR O TRANSPORTAR EQUIPOS:**

- **MANTENGA** la velocidad de transporte **POR DEBAJO DE 20** millas por hora para mantener el control del equipo.
- **REDUZCA LA VELOCIDAD** en terreno inclinado, en las curvas y en condiciones de remolque desfavorables.
- **NO REMOLQUE** camiones u otros vehículos
- **USE** un tractor de tamaño adecuado y equipado en función del equipo de remolque.
- **SIGA** todas las reglamentaciones de tránsito locales.

REQUISITOS DEL TRACTOR PARA REMOLCAR O TRANSPORTAR IMPLEMENTOS:

- **SÓLO TRANSPORTE** en el tractor con el mecanismo **ROPS** (antivuelco) en posición elevada.
- **USE** un tractor de tamaño adecuado y equipado, que supere el peso del implemento en al menos un 20%
- **MANTENGA EL 20%** del peso del tractor en las ruedas frontales para mantener la dirección en forma segura.

ANTES DE TRANSPORTAR O REMOLCAR EL IMPLEMENTO:

INSPECCIÓN DEL TRACTOR:

- **VERIFIQUE** la dirección y los frenos para asegurarse el correcto funcionamiento y las condiciones adecuadas.
- **VERIFIQUE LLEVAR EL AVISO DE SMV**, los reflectores y las luces de advertencia para la adecuada operación y visibilidad detrás de la unidad.
- **VERIFIQUE** que no haya impedimentos a la visión mientras conduce, en el tractor, la cabina o el implemento, sentado en el asiento del tractor.
- **AJUSTE** su posición de conducción, los espejos y el transporte del implemento para tener una visión clara para condiciones de conducción y tránsito.

PREPARE EL IMPLEMENTO PARA EL TRANSPORTE O EL REMOLQUE:

- Guarde el brazo y la cortadora en posición de transporte y conecte las trabas de transporte si existen.

DETERMINAR LAS CARACTERÍSTICAS DE DETENCIÓN DEL TRACTOR Y EL IMPLEMENTO PARA EL TRANSPORTE O REMOLQUE:

PRUEBAS DE FRENADO:

- La distancia de frenado puede aumentar con el implemento conectado
- Observe las distancias de **DETENCIÓN** con el aumento de velocidad.
- **DETERMINE** la velocidad de transporte máxima segura que no supere las 20 millas por hora
- Reduzca la velocidad en caminos mojados o cubiertos de hielo; las distancias de frenado aumentan.

DETERMINE LA VELOCIDAD DE GIRO MÁXIMA ANTES DE OPERAR EN CARRETERAS O TERRENO IRREGULAR:

- **PONGA A PRUEBA** el equipo aumentando lentamente la velocidad en las curvas para determinar si se puede operar a mayor velocidad.
- **USE MENORES** velocidades de giro en las curvas pronunciadas para evitar el vuelco.

AL REMOLCAR O TRANSPORTAR EL EQUIPO:

- Siempre **USE EL CINTURÓN DE SEGURIDAD** al operar o transportar la cortadora.
- **USE** bajas velocidades para evitar el vuelco con el implemento elevado.
- **USE** bajas velocidades y dirección gradual en las curvas, colinas, o en superficies irregulares o poco uniformes, y en carreteras mojadas.
- **ENCIENDA LAS BALIZAS DE ADVERTENCIA** del tractor.
- **TENGA EN CUENTA** el espacio necesario para el vaivén del implemento en las curvas.

MANTENGA le brazo y cortadora elevadas a 3 metros (10 pies) o una mayor distancia de todos los cables de alimentación y obstrucciones elevadas.

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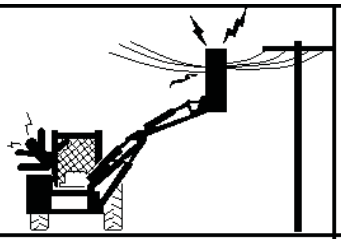
SEGURIDAD

RIESGOS ELÉCRTICOS Y DE FUEGO

		
Cabezal o brazo en contacto con cables eléctricos elevados	Riesgo de choque y explosión Contacto de paletas con líneas de servicios o gas	Riesgo de incendio. No opere cerca de fuego. Mantenga los residuos legos de las válvulas y las bombas hidráulicas.

⚠ PELIGRO **PARA EVITAR LESIONES GRAVES O LA MUERTE POR CONTACTO ELÉCTRICO AL TRABAJAR CERCA DE CABLES ELÉCTRICOS, LÍNEAS DE GAS Y DE SERVICIOS:**

- **INSPECCIONE** el área de corte para que no interfiera con cables de alimentación eléctricos subterráneos, obstrucciones, líneas de gas, cables y servicios, estructuras municipales o de otro tipo.
- **MANTENGA** todas las alas elevadas a 3 metros (10 pies) o una mayor distancia de todos los cables de alimentación y obstrucciones elevadas.
- **NO** ponga en contacto la cortadora con ninguna estructura u obstrucción de servicios o municipales.
- **LLAME** AL 811 y al 1-800-258-0808 para identificar cables de servicios subterráneos.

PAUTAS DE PREVENCIÓN DE INCENDIOS durante la operación, reparación y servicio de la cortadora y el tractor, a fin de reducir el riesgo de incendio del equipo y de la vegetación:

- El tractor debe estar **EQUIPADO CON MATAFUEGOS**
- **NO OPERE** la cortadora sobre un tractor equipado con escape debajo del bastidor
- **NO FUME** ni acerque fuego directo a la cortadora o el tractor
- **NO CONDUZCA** sobre residuos encendidos o en áreas recientemente quemadas
- **EVITE LA FORMACIÓN DE CHISPAS** al no permitir que la hoja de la cortadora entre en contacto con objetos sólidos como metal o roca.
- NO OPERE el equipo con filtraciones de aceite o combustible. Repare cualquier filtración de aceite y retire el aceite acumulado antes de operar.
- **LIMPIE** todo resto de hierba o residuo acumulado alrededor de las líneas de conducción de la cortadora, los embragues deslizantes y cajas de cambios.
- **APAGUE EL MOTOR** al cargar combustible ***PN EFBM-01 SP***

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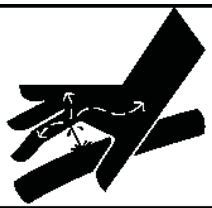
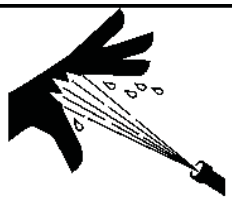
SEGURIDAD

RIESGO DE FILTRACION DE ACEITE HIDRÁULICO DE ALTA PRESIÓN

			
Penetración de aceite de alta presión en la piel	Erosión de la piel por el aceite de alta presión	Usar cartón para detectar filtraciones de aceite	Los contenidos del tanque están bajo presión Permita que el aceite se enfríe antes de quitar la tapa.

⚠ PELIGRO **PARA EVITAR LESIONES GRAVES O LA MUERTE POR PENETRACIÓN DE FILTRACIONES DE ACEITE HIDRÁULICO DE ALTA PRESIÓN:**

- **NO OPERE** el equipo con filtraciones de aceite o combustible.
- **MANTENGA** todas las mangueras hidráulicas, líneas y conexiones en **BUEN ESTADO** y **AJUSTADAS** antes de aplicar presión al sistema.
- **LIBERE LA PRESIÓN HIDRÁULICA** antes de desconectar las líneas o trabajar en el sistema.
- **QUITE** y reemplace la manguera si sospecha que tiene filtraciones. Solicite al distribuidor que verifique si hay filtraciones.

LAS FILTRACIONES DE LÍQUIDO DE ALTA PRESIÓN PUEDEN NO SER VISIBLES.

AL VERIFICAR FILTRACIONES HIDRÁULICAS Y TRABAJAR CERCA DE LOS SISTEMAS HIDRÁULICOS:

- **SIEMPRE USE** gafas de seguridad y guantes impenetrables.
- **USE** papel o cartón para verificar si hay filtraciones.
- **NO USE** las manos o partes del cuerpo para detectar filtraciones.
- **MANTENGA** las manos y el cuerpo **LEJOS** de los orificios de clavijas y boquillas de eyección de fluido hidráulico.
- El fluido hidráulico puede causar gangrena si no es extirpado quirúrgicamente de inmediato por un médico especializado en este tipo de lesiones..

Tenga cuidado cuando retire la tapa del tanque hidráulico.

- Los contenidos del tanque pueden estar bajo presión.
- Siempre permita que el aceite se enfríe antes de quitar la tapa.
- Libere la presión de aceite antes de retirar la tapa lentamente.
- Aléjese del aceite caliente que pueda rociarse desde el tanque. ***PN HPBM-01 SP***

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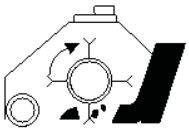
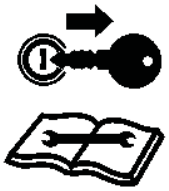
SEGURIDAD

RIESGO DEL CONTACTO A LAS CUCHILLAS DE CORTADORA

					
No ponga los dedos debajo de la cortadora	No ponga las manos debajo de la cortadora trituradora	No ponga el pie debajo de la cortadora	No ponga el pie debajo de la cortadora trituradora	Riesgo de cizallamiento por las cuchillas de hoz	Detenga el tractor. Quite la llave. Lea el Manual

⚠ PELIGRO **MANTÉNGASE LEJOS DE LAS CUCHILLAS GIRATORIAS PARA EVITAR LESIONES GRAVES O LA MUERTE POR CONTACTO CON LA CUCHILLA:**

- **MANTÉNGASE LEJOS** y **NO ACERQUE LAS MANOS, LOS PIES** y **EL CUERPO** a las cuchillas giratorias, líneas de conducción y partes hasta que todos los elementos móviles se hayan detenido.
- **NO** ponga las manos o los pies debajo de las plataformas de la cortadora
- **DETENGA** las **CUCHILLAS** giratorias, desconecte el interruptor de la cortadora y la **TDF (PTO)** y espere que la cuchilla deje de girar antes de levantar el cabezal de la cortadora.
- **NO** se acerque el cabezal de la cortadora de hoz hasta que el motor del tractor haya sido apagado.
- **DETENGA** la cortadora, **EXAMÍNELA** Y **PRESTE ATENCIÓN A LOS SONIDOS** antes de acercarse a la cortadora para asegurarse de que se haya detenido todo el movimiento giratorio. ***PN MBBM-01 SP***

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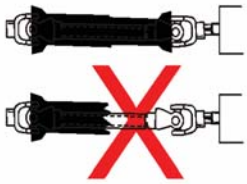
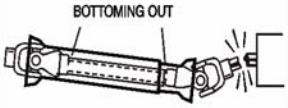
RIESGO DE ENREDO POR EL PTO

			
Peligro de enredo No se acerque o toque ningún eje de transmisión de PTO giratorio	Asegúrese de que el eje de PTO esté firmemente sujetado. No use un adaptador de PTO	No opere la máquina si las cubiertas de PTO están dañadas o faltantes	Asegúrese de que los ejes de PTO sean del largo adecuado

⚠ PELIGRO **MANTÉNGASE ALEJADO DE LAS LÍNEAS DE CONDUCCIÓN Y OTROS ELEMENTOS GIRATORIOS PARA EVITAR LESIONES GRAVES O LA MUERTE:**

MANTÉNGASE LEJOS y **NO ACERQUE** las manos, los pies y el cuerpo a las cuchillas giratorias, líneas de conducción y partes hasta que todos los elementos móviles se hayan detenido.

- **DETENGA** la cortadora, **EXAMÍNELA Y PRESTE ATENCIÓN A LOS SONIDOS** antes de acercarse a la cortadora para asegurarse de que se haya detenido todo el movimiento giratorio.
- **LOS ELEMENTOS GIRATORIOS SIGUEN ROTANDO** una vez apagada la **PTO**.

PROTECCIÓN DE LA PTO:

PARA EVITAR LESIONES GRAVES O LA MUERTE POR ENREDO AL OPERAR EL IMPLEMENTO:

- **MANTENGA** instalados los protectores, las cubiertas integrales de las líneas de conducción y las cubiertas de entrada
- **NO OPERE** la cortadora si los protectores o cubiertas no están bien colocados o faltan.
- **REEMPLACE O REPÁRELOS** si faltan, están dañados o rotos
- **SIEMPRE REEMPLACE LOS PROTECTORES** que se han quitado para tareas de reparación o mantenimiento.

PARA EVITAR que la línea de conducción se rompa durante las operaciones:

- **VERIFIQUE** que la línea de conducción tenga el largo adecuado entre el eje de **PTO** y el eje de la caja de cambios del implemento.
- Las líneas de conducción demasiado cortas se pueden soltar o romper.
- Las líneas de conducción demasiado largas pueden tocar el suelo.
  Un ensamblaje telescópico de la línea de conducción que toque el suelo no se deslizará y se solidificará.
- Si la línea de conducción toca el suelo, puede atravesar los cojinetes de soporte y romper el eje de **PTO**.
- **EVITE** hacer curvas pronunciadas o elevar la cortadora a alturas que puedan hacer caer la línea de conducción.
- Lubrique los componentes telescópicos del eje de transmisión en forma semanal.

COMUNÍQUESE CON EL DISTRIBUIDOR si la línea de conducción del implemento no coincide con el eje de **PTO** del tractor:

- **NO UTILICE UN ADAPTADOR DE PTO.**
  El uso de un adaptador de **PTO** puede causar vibración excesiva, caída de objetos, fallas de las cuchillas y el implemento como consecuencia de la duplicación de la velocidad operativa. El aumento de la longitud de trabajo puede exponer áreas desprotegidas de la línea de conducción. ***PN PE01 SP***

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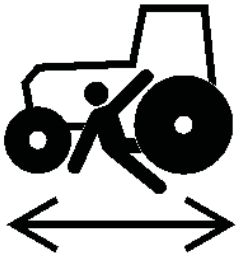
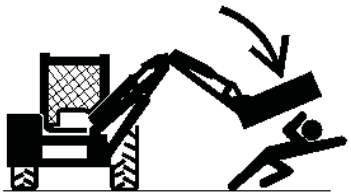
SEGURIDAD

RIESGO DE ATROPELLO

		
Riesgo de atropello del operador	Riesgo de atropello por caída del operador	Riesgo de atropello de personas presentes

⚠ PELIGRO **PARA EVITAR LESIONES GRAVES O LA MUERTE POR CAÍDA DEL TRACTOR O ATROPELLO DEL EQUIPO:**

- **USE** tractores equipados con **SISTEMA ANTIVUELCO (ROPS) y CINTURONES DE SEGURIDAD** para las operaciones de corte.
- **MANTENGA EL SISTEMA ROPS** trabado en posición vertical.
- **SÓLO ENCIENDA** el tractor sentado en el asiento del tractor.
- **SIEMPRE ABRÓCHESE** el cinturón de seguridad al operar el tractor y los equipos.
- **SÓLO OPERE** el tractor y el equipo sentado en el asiento del tractor.
- **NUNCA LLEVE A OTRAS PERSONAS** en el tractor o implemento.
- Cuando no esté cortando, coloque el brazo y el cabezal de la cortadora en el espacio de transporte antes de moverse.

AL SUBIR Y BAJAR DEL TRACTOR:

- • **SÓLO** suba o baje del tractor cuando éste y sus partes móviles estén detenidos.
- • **APAGUE EL MOTOR Y LA TDF**, coloque el freno de mano, descienda del implemento, espere a que se detengan todas las partes móviles y quite la llave antes de bajarse del tractor. ***PN ROBM-01 SP***

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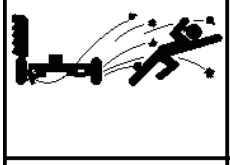
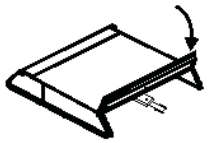
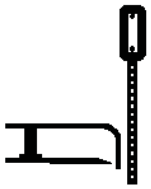
RIESGO DE OBJECTOS LANZADOS Continuado

				
Peligro de objetos lanzados por la cortadora	Objetos lanzados desde cortadora elevada	Mantenga la puerta de la cortadora cerrada si el tráfico se encuentra al menos de 300 pies	Inspeccione el área. Quite los objetos extraños	No permita que las cuchillas entren en contacto con objetos sólidos

OPERACIÓN DE LA CORTADORA:

- **NO** exceda la capacidad de corte nominal de la cortadora, ni corte elementos que no sean vegetación.
- **USE CABINAS DE TRACTOR CERRADAS** cuando haya dos o más cortadoras operando en un mismo sector.
- No opere la cortadora en áreas susceptibles al ataque de abejas o insectos, salvo que **USE PRENDAS PROTECTORAS** o una cabina de tractor cerrada.
- **AJUSTE** el cabezal de la cortadora paralelo al suelo y cerca de él sin exponer las cuchillas.
- **AJUSTE LA ALTURA** de corte para **EVITAR EL CONTACTO DE LAS CUCHILLAS** con objetos sólidos, como alambres, piedras, postes, cordones, guardarrailes y obstrucciones fijas.
- **CIERRE** la puerta de la cortadora y detenga la operación si se acercan transeúntes a 100 metros (300 pies) a la redonda de la cortadora.
- Mantenga la puerta de la cortadora cerrada cuando corte cerca del suelo.
- Abra la puerta sólo para cortar ramas grandes de arbustos o árboles. Cierre la puerta inmediatamente después de cortar la rama.
- **NO** empuje el cabezal de la cortadora hacia abajo sobre el material para cortarlo, use las puntas frontales de las cuchillas de la cortadora para cortar el material.
- **NO** opere la cortadora cuando la cortadora esté en posición de transporte.
- **DETENGA LA CORTADORA** de inmediato si las cuchillas entran en contacto con objetos pesados, estructuras fijas, guardarrailes de metal y estructuras de cemento:
  1. **LAS CUCHILLAS PUEDEN FALLAR** con el impacto y los objetos pueden ser arrojados a gran velocidad.
  2. **INSPECCIONE** y **REEMPLACE** las cuchillas dañadas.
  3. **VERIFIQUE** el equilibrio del porta cuchillas y **REEMPLÁCELO** si está dañado.
- **NO** opere la cortadora en agua **PARA EVITAR** una posible **FALLA DE LAS CUCHILLAS**.
- **EVITE OPERAR LA CORTADORA** en reversa:
  1. **DETENGA EL PT O** y retroceda la cortadora.
  2. **DESCIENDA** la cortadora, encienda el **PTO** y corte hacia adelante.
- **DESCONECTE** el cabezal de la cortadora y espere hasta que las CUCHILLAS dejen de rotar antes de levantar la cortadora a la posición de transporte..
- **NO ENCIENDA EL PTO** con la cortadora en posición de transporte.
- **DETENGA** la cortadora cuando se produzca **VIBRACIÓN EXCESIVA:**
  1. **DETENGA EL PTO Y EL MOTOR** del tractor.
  2. **INSPECCIONE** la cortadora para detectar la fuente de la vibración
  3. **REEMPLACE** toda parte dañada o las **CUCHILLAS** dobladas o dañadas. ***PN TOBM-02 SP***

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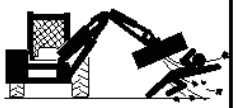
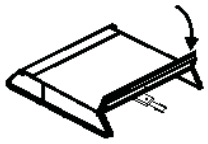
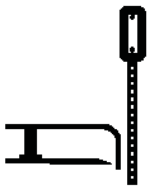
SEGURIDAD

RIESGO DE OBJECTOS LANZADOS

				
Peligro de objetos lanzados por la cortadora	Objetos lanzados desde cortadora elevada	Mantenga la puerta de la cortadora cerrada si el tráfico se encuentra al menos de 300 pies	Inspeccione el área. Quite los objetos extraños	No permita que las cuchillas entren en contacto con objetos sólidos

⚠ PELIGRO **LAS CORTADORAS GIRATORIAS PUEDEN ARROJAR OBJETOS A 90 METROS (300 PIES) O MÁS EN CONDICIONES ADVERSAS.**

PARA EVITAR LESIONES GRAVES O LA MUERTE AL OPERADOR O TRANSEÚNTES COMO CONSECUENCIA DE OBJETOS ARROJADOS:

- **MANTENGA** a los transeúntes a 100 metros de distancia (300 pies)

NO OPERE LA CORTADORA SI HAY PERSONAS A MENOS DE 100 METROS(300 PIES), SALVO QUE:

- Todos los **PROTECTORES CONTRA OBJETOS ARROJADOS** estén colocados y en buen funcionamiento al operar la cortadora, entre los que se incluyen los deflectores frontales y traseros, los protectores de cadena, los protectores de acero, las bandas, los faldones laterales y las zapatas antideslizantes.
- El Cabezal de la cortadora esta ajusta cerca y paralela al suelo, sin exponer las cuchillas.
- Se ha inspeccionado el **ÁREA DE CORTE** y se han quitado todos los materiales extraños y residuos.
- **NO** corte material suelto o cortado previamente si hay **TRANSEÚNTES** dentro de 100 metros a la redonda.
- Los **TRANSEÚNTES** estén en el interior de un vehículo cerrado.

ANTES DE OPERAR LA CORTADORA, INSPECCIONE EL ÁREA PARA DETECTAR LA POSIBILIDAD DE OBJETOSQUE PUEDAN SER LANZADOS:

- **QUITE** residuos, piedras, cables, alambres, objetos metálicos y cualquier otro objetos extraños del área.
  Los alambres, cables, sogas, cadenas y objetos metálicos pueden ser arrojados o salir desprendidos de la plataforma a gran velocidad:
  1. **MARQUE** los objetos que no se puedan quitar.
  2. **EVITE** estos objetos cuando use la cortadora.

INSPECCIÓN DEL ÁREA PARA DETECTAR HIERBA ALTA Y MALEZAS:

- **INSPECCIONE Y QUITE** cualquier residuo oculto de gran tamaño.
- **PASE LA CORTADORA** a una altura intermedia
- **INSPECCIONE** y quite el residuo restante
- **PASE LA CORTADORA** a la altura final

PROTECCIÓN CONTRA OBJETOS ARROJADOS DE LA CORTADORA:

- **MANTENGA** todos los protectores contra objetos arrojados en su lugar y en buen funcionamiento al operar la cortadora, entre los que se incluyen los deflectores frontales y traseros, los protectores de cadena, los protectores de acero, las bandas, los faldones laterales y las zapatas antideslizantes.
- **NO OPERE LA CORTADORA** si falta algún protector contra objetos arrojados, o si éstos están dañados.

DERECHO DE PASO (autopista) CON LA CORTADORA

- Ninguna protección ofrece una eficacia del 100% en la prevención de objetos arrojados. Para reducir la posibilidad de que se produzcan lesiones:
- Detenga el corte si algún transeúnte se acerca a 100 metros (300 pies) a la redonda de la cortadora.
  1. **MANTENGA LOS PROTECTORES DE LA CORTADORA**, los faldones laterales, la zapatas antideslizantes y las cuchillas en buen estado de funcionamiento,
  2. **ELEVE LA ALTURA DE CORTE a 15 CM (6 PULGADAS)** como mínimo,
  3. **INSPECCIONE EL ÁREA** con cuidado antes de pasar la cortadora para ELIMINAR el posible riesgo de **OBJETOS ARROJADOS**,
  4. **NUNCA PERMITA QUE LAS CUCHILLAS EN MOVIMIENTO ENTREN EN CONTACTO CON OBJETOS SÓLIDOS** como alambres, piedras, postes, cordones, guardarrailes o el suelo. ***PN TOBM-01 SP***

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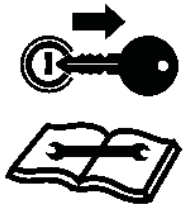
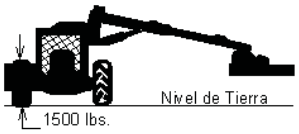
CONECTAR O DESCONECTAR EL IMPLEMENTO DE SEGURIDAD

			
Detenga el tractor Quite la llave Lea el Manual	Riesgo de aplastamiento. NO se coloque debajo del brazo cuando conecte el cabezal de la cortadora al brazo	Riesgo de estabilidad. Asegúrese de que el 20% del peso del tractor esté en las ruedas.	Riesgo de estabilidad. Asegúrese de que haya una fuerza hacia debajo de 1500lb sobre la rueda izquierda con el brazo extendido.

⚠ PELIGRO **PARA EVITAR LESIONES GRAVES O LA MUERTE POR APLASTAMIENTO POR EL TRACTOR O IMPLEMENTO:**

CUANDO conecte el cabezal de la cortadora al brazo:

- MANTENGA A LOS TRANSEÚNTES LEJOS del tractor y la cortadora.
- Asegúrese de que haya espacio suficiente para elevar y mover el brazo sin golpear objetos

ANTES de conectar y desconectar el cabezal de la cortadora o el brazo:

- APAGUE EL MOTOR DEL TRACTOR, coloque la palanca en “estacionar", ponga el freno de mano y saque la llave.

CUANDO conecte y desconecte el cabezal de la cortadora o el brazo:

- **NO** se agache o camine debajo del cabezal o el brazo de la cortadora en posición elevada. *(Consulte las Instrucciones en la sección de Operación)*

AL CONECTAR LA LÍNEA DE CONDUCCIÓN DEL IMPLEMENTO: (Si está equipado)

PARA EVITAR que la línea de conducción del implemento se suelte durante la operación:

- **LUBRIQU**E el anillo de cierre del resorte del yugo para asegurarse de que se deslice libremente sobre el eje de **TDF**
- **ASEGURE** las bolas de cierre del yugo en la muesca del eje de **TDF**.
- **PRESIONE y JALE LA LÍNEA DE CONDUCCIÓN del EJE DE TOMA DE FUERZA del tractor y del implemento para asegurarse de que estén FIRMEMENTE SUJETADOS**

PARA EVITAR que la línea de conducción se rompa durante las operaciones:

- VERIFIQUE que la línea de conducción tenga el largo adecuado entre el eje de PTO y el eje de la caja de cambios del implement *(Consulte las Instrucciones en la sección de Operación))*
- Las líneas de conducción demasiado cortas se pueden soltar o romper.
- Las líneas de conducción demasiado largas pueden tocar el suelo.
- Un ensamblaje telescópico de la línea de conducción que toque el suelo no se deslizará y se solidificará.
- Si la línea de conducción toca el suelo, puede atravesar los cojinetes de soporte y romper el eje de TDF(PTO).

COMUNÍQUESE CON EL DISTRIBUIDOR si la línea de conducción del implemento no coincide con el eje de TDF(PTO) del tractor:

- **NO UTILICE UN ADAPTADOR DE TDF(PTO).**
  El uso de un adaptador de TDF(PTO) puede ocasionar:
- Vibración excesiva, caída de objetos, fallas de la cuchilla y el implemento como consecuencia de la duplicación de la velocidad operativa.
- Mayor extensión de trabajo, lo que deja expuestas áreas desprotegidas de la línea de conducción e implica el riesgo de enredo con otros objetos. ***PN CDBM-01***

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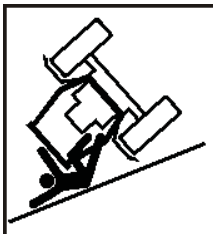
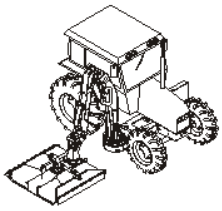
SEGURIDAD

RIESGO DE APLASTAMIENTO

				
Lesión aplastante por vuelco	Use un tractor con cabina con las cortadoras con brazo	Siempre utilice cinturón de seguridad	Riesgo de punto de compresión. Mantenga las manos y el cuerpo lejos de los puntos de compresión	Lesión por aplastamiento causada por la caída del brazo o el cabezal de la cortadora

⚠ PELIGRO **PARA EVITAR LESIONES GRAVES O LA MUERTE POR CAÍDA DEL TRACTOR O ATROPELLO DEL EQUIPO, VUELCO O APLASTAMIENTO POR LA CAÍDA DE DEL BRAZO O EL IMPLEMENTO:**

- **USE** tractores equipados con **SISTEMA ANTIVUELCO (ROPS)** y **CINTURONES DE SEGURIDAD** para las operaciones de corte.
- **MANTENGA EL SISTEMA ROPS** trabado en posición vertical.
- **SIEMPRE ABRÓCHESE** el cinturón de seguridad al operar el tractor y los equipos.
- **SÓLO OPERE** el tractor y el equipo sentado en el asiento del tractor.

AL ELEVAR EL BRAZO DE LA CORTADORA:

- Eleve o descienda **SÓLO CUANDO ESTÉ SENTADO** en el asiento del tractor, ycon el cinturón de seguridad ajustado.
- **MANTENGA A LOS TRANSEÚNTES FUERA** del área de operación **PARA EVITAR** accidentes por aplastamiento.
- **MANTENGA** suficiente espacio libre alrededor de los implementos PARA EVITAR el contacto con edificios o cables elevados.

LIFTED Equipment can fall from mechanical or hydraulic failure or inadvertent Control Lever movement.

⚠ ADVERTENCIA **PARA EVITAR LA CAÍDA DEL EQUIPO al trabajar cerca o debajo del brazo izado, los componentes y el cabezal de la cortadora:**

- **SUJETE CON FIRMEZA** o bloquee en posición vertical todos los equipos, aletas y componentes elevados.
- **BLOQUEE EN POSICIÓN VERTICAL** y sujete con firmeza el equipo antes de poner las manos, los pies o el cuerpo debajo de los equipos o componentes elevados.
- **MANTENGA A LOS TRANSEÚNTES LEJOS d**el brazo elevado o el cabezal de la cortadora hasta que estén bloqueados de forma segura.

AL ESTACIONAR el implemento y el tractor:

- **DESCIENDA** el cabezal de la cortadora hasta el suelo o BLOQUEE las partes elevadas antes de alejarse del equipo.
- **NUNCA** deje un implemento sin atención en posición elevada.

⚠ ADVERTENCIA **PARA EVITAR LA CAÍDA O EL APLASTAMIENTO DE NIÑOS POR EL EQUIPO:**

- **NUNCA DEJE** que los niños jueguen sobre el tractor o los implementos, ni en sus alrededores.
- **NO OPERE** el equipo sin **CABINA CERRADA o PROTECCIÓN SUPERIOR**. Las ramas y los residuos que caen pueden causar lesiones. ***PN CHBM-01***

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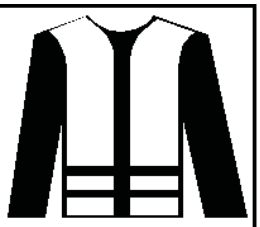
SEGURIDAD

SEGURIDAD DEL OPERADOR

				
Lea con atención el Manual del Operador	Siempre use gafas de seguridad	Use casco y calzado protector	Nunca consuma drogas o alcohol mientras opera el equipo	Utilice chaleco de seguridad al operar en o cercas de carreteras

ADVERTENCIA **PARA EVITAR LESIONES GRAVES O LA MUERTE, SIGA LAS SIGUIENTES INSTRUCCIONES:**

- **LEA, COMPRENDA** y **SIGA** las instrucciones del Manual del Operador, al igual que las Advertencias y Mensajes de Seguridad.
- **USE GAFAS DE SEGURIDAD**, calzado protector, casco, protección auditiva y guantes al operar o reparar el equipo
- **USE** un aparato de respiración apropiado al operar en condiciones polvorientas a fin de evitar contraer enfermedades respiratorias.
- **NO USE** prendas sueltas o joyas que se puedan enredar con las partes giratorias y causar una lesión.
- **NO CONSUMA DROGAS** o **ALCOHOL** antes o durante la operación del equipo.
- **NO PERMITA** que nadie opere el equipo bajo los efectos negativos de las drogas o el alcohol.
- **CONSULTE** a un médico para conocer los efectos desfavorables de la medicación sobre los sentidos
- **EVITE EL CONTACTO** con superficies calientes tales como silenciadores, bombas hidráulicas, válvulas y tanques.
- **MANTÉNGASE ALERTA,** la operación prolongada puede causar fatiga. HAGA UNA PAUSA y DESCANSE.

SEGURIDAD DE OPERACIÓN GENERAL

- **CONDICIONES DE VISIBILIDAD AL USAR LA CORTADORA:**
- **OPERE LA CORTADORA CON LUZ SOLAR** o con luz que aporte una visibilidad nítida de más de 90 metros (100 yardas).
- **DEBE PODER VISUALIZAR** e identificar transeúntes, terrenos empinados, pozos, desniveles, obstrucciones elevadas, cables de alimentación, residuos y objetos extraños.
- Evite retroceder mientras opera la cortadora: la visión es limitada y pueden ocurrir daños o lesiones severas.
- NO OPERE el tractor en un recinto cerrado sin ventilación adecuada de los gases de escape.

VELOCIDAD RESPECTO AL SUELO AL USAR LA CORTADORA:

- El rango de VELOCIDAD NORMAL es de entre 1 y 2 millas por hora(1 3kph).
- AJUSTE LA VELOCIDAD DE CORTE según las condiciones del terreno y el tipo de césped, la densidad y la altura del corte.
- REDUZCA LA VELOCIDAD DE CORTE al acercarse a inclinaciones empinadas, pozos, desniveles, obstrucciones elevadas, cables de alimentación y para evitar residuos y objetos extraños.

TRACTOR y CORTADORA

- NO OPERE el tractor o la cortadora a menos que hayan recibido el mantenimiento adecuado y funcionen correctamente
- DETENGA LA OPERACIÓN si los controles eléctricos o hidráulicos del tractor o la cortadora no funcionan correctamente.
- DETENGA LA OPERACIÓN del tractor si los sistemas de frenado o dirección no funcionan correctamente.
- NO OPERE el tractor o la cortadora si hay pérdidas de líquido hidráulico.

INFESTACIÓN CON INSECTOS

- No opere en áreas susceptibles al ataque de abejas o insectos, salvo que USE PRENDAS PROTECTORAS o una cabina de trac tor cerrada.

VELOCIDAD DE CUCHILLAS DE LA CORTADORA:

- **NO EXCEDA LA VELOCIDAD NOMINALES DE RPM DEL IMPLEMENTO.**
- EVITE superar las velocidades nominales de RPM de la cabaza cortadora, porque puede resultar sobrecalentamiento o fallas en el componente y las cuchillas.

SEÑALES DE SEGURIDAD:

- REEMPLACE cualquier señal de seguridad faltante, dañada o ilegible ***PN OSBM-01 SP***

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SEGURIDAD

INSTRUCCIONES DE SEGURIDAD Y PRÁCTICAS GENERALES

El mejor operador es un operador cuidadoso. La seguridad es de importancia fundamental para el fabricante, y también debería serlo para el propietario u operador. La mayoría de los accidentes se pueden evitar prestando suma atención al equipo, al ambiente circundante, y tomando algunas precauciones. La primera sección de este manual incluye una lista de Mensajes de Seguridad que deben observarse para contribuir a la protección del operador y otras personas frente a lesiones o la muerte. Lea con atención estos Mensajes de Seguridad antes de ensamblar, operar o reparar este Implemento. Este equipo sólo debe ser operado por personas que hayan leído el manual, responsables y calificadas, que sepan cómo hacerlo de manera responsable.

El Símbolo de Alerta de Seguridad se utiliza en combinación con una Señal Verbal, tal como la que se muestra a continuación, en todo este manual y en los autoadhesivos adheridos a los equipos. El Símbolo de Alerta de Seguridad significa:

"¡ATENCIÓN! ¡MANTÉNGASE ALERTA! ¡SU SEGURIDAD ESTÁ EN JUEGO!" El Símbolo y la Señal Verbal tienen el objetivo de advertir al propietario/operador sobre un riesgo inminente y el grado de lesión que se puede producir al operar este equipo.

Adopte todas las medidas habituales para trabajar en forma segura y, sobre todo, recuerde que la seguridad depende de USTED. Sólo USTED puede impedir una lesión grave o la muerte a causa de prácticas no seguras.

⚠ PELIGRO Indica una situación peligrosa inminente que, de no ser evitada, **OCASIONARÁ** la **MUERTE O UNA LESIÓN MUY GRAVE**.

⚠ ADVERTENCIA Indica una situación peligrosa inminente que, de no ser evitada, **PODRÍA OCASIONAR** la **MUERTE O UNA LESIÓN MUY GRAVE**.

⚠ PRECAUCIÓN Indica una situación peligrosa inminente que, de no ser evitada, **PODRÍA OCASIONAR UNA LESIÓN MENOR**.

Importante Identifica instrucciones o procedimientos específicos que, de no observarse estrictamente, podrían ocasionar daños o la destrucción de la maquinaria, los accesorios o el entorno.

NOTA: *Identifica aspectos de particular interés para lograr una operación o reparación más eficiente y conveniente.*

LEA CON ATENCIÓN Y RESPETE los siguientes Mensajes de Seguridad. Si no se siguen cuidadosamente las advertencias e instrucciones indicadas en este Manual y en los Mensajes de Seguridad del implemento, se pueden producir lesiones graves o la muerte. Siempre siga las instrucciones de este manual y use el sentido común para evitar situaciones peligrosas.

NOTA: *Si desea obtener una traducción de esta sección de seguridad en alguno de los siguientes idiomas, comuníquese con: Translations, a la dirección 1502 E. Walnut Street Seguin, TX 78155; Fax: (830) 372-9529; La Sección de Seguridad está disponible en español, portugués, francés, alemán, ruso.* ***PN GS01 SP***

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SECCIÓN DE SEGURIDAD

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Instrucciones de operaciones antes de la entrega del DISTRIBUIDOR al CLIENTE

El distribuidor deberá informar al comprador de este producto las condiciones, disposiciones y procedimientos de garantía aplicables; informar la responsabilidad del comprador de capacitar a sus operadores para la operación segura; revisar el contenido del Manual del Operador, incluido el equipo de seguridad, la operación segura y el mantenimiento; y revisar las Señales de Seguridad que se encuentran en el implemento (y en el tractor, de ser posible).

- **IMPLEMENTOS:** He explicado que los deflectores, protectores de cadena o faldones sólidos se deben mantener en buenas condiciones de reparación y se deben instalar, excepto en zonas donde personas, vehículos, ganado u otros bienes no corran peligro por objetos arrojados, y en los casos en que dichos equipos de seguridad impedirían un desempeño razonable de la cortadora en su tarea asignada.

- **LÍNEAS DE CONDUCCIÓN:** Me he asegurado de que todos los protectores de líneas de conducción, de caja de engranajes y otros están en buenas condiciones de reparación y firmemente sujetados para prevenir lesiones por enredo u objetos arrojados.

- **MÁQUINAS HIDRÁULICAS:** He explicado la necesidad de usar aceite hidráulico limpio, cambiar los filtros según las instrucciones, detener filtraciones, prevenir daños por operar con aceite demasiado caliente, cuidar las mangueras, usar mangueras del tipo correcto, mantener la presión operativa especificada y prevenir el posible riesgo de que el aceite penetre en la piel.

- **IMPLEMENTOS PLEGABLES:** He explicado que no es posible proteger contra objetos arrojados cuando el cabezal está elevado del suelo y que el operador es responsable de verificar que no existan personas en las inmediaciones. He explicado que el brazo o cabezal de cortadora elevado puede entrar en contacto con obstrucciones elevados y dañar cables y líneas telefónicas, y posiblemente causar lesiones. He explicado que el brazo o cabezal extendido, o el brazo retraído, puede entrar en contacto con cables de alimentación y causar lesiones o la muerte por electrocución, y que el operador es responsable de evitar dichos riesgos.

SERVICIO ANTES DE LA ENTREGA
VERIFIQUE Y AJUSTE O LUBRIQUE SEGÚN SEA NECESARIO

Consulte los detalles en el Manual del Operador

Inspección realizada Garantía y procedimientos de seguridad explicados Instalación realizada

LUBRICACIÓN E HIDRÁULICA

- ☐ Caja de engranajes (niveles de aceite)
- ☐ Nivel de aceite hidráulico (tanque externo)
- ☐ Nivel de aceite hidráulico del tractor
- ☐ Mangueras hidráulicas (no retorcidas y ajustadas)
- ☐ Propulsor de bomba frontal (conjunto ajustado y eje bien alineado)

CORTADORA

- ☐ Nivel y altura de corte de la cortadora ajustados
- ☐ Cojinetes del eje de corte lubricados
- ☐ Todas las piezas metálicas bien ajustadas

ACCESORIOS E INSTALACIÓN

- ☐ Deflectores frontales y traseros
- ☐ Sentido de giro de las hojas correcto

CONEXIONES DE CORTADORA A TRACTOR

- ☐ Pivote y conexiones de bastidor en A
- ☐ Altura de eje (ajustar)
- ☐ Altura de corte (ajustar)
- ☐ Verificación de pre-operación de kit de montaje
- ☐ Aleta de cortadora (ajustar nivel con el centro)
- ☐ Aleta de cortadora (verificar operación de elevación correcta)
- ☐ Piezas metálicas de montaje bien ajustadas

ELEMENTOS DE SEGURIDAD

- ☐ Protectores (operación e instalación)
- ☐ Embrague de línea de conducción (limitador de ajuste) (ajustar y poner en marcha)
- ☐ Autoadhesivos de seguridad (colocados)
- ☐ Manual del Operador (entregado)
- ☐ Protector de TDF del tractor (instalado)
- ☐ Emblema S.M.V. (instalado de ser necesario)
- ☐ Gato con lengüeta (instalación y operación)
- ☐ Cadena de remolque de seguridad (instalada)
- ☐ Manual de Seguridad de Línea de Conducción ADMA (entregado)
- ☐ Manual de Seguridad de Cortadora AEM (entregado en porta manual)
- ☐ Se mostró el Video de Seguridad de Cortadora AEM al comprador

Terrain King está dispuesto a suministrar un (1) Video de Prácticas de Seguridad para Cortadoras AEM

Por favor enviar: ☐ Video de Seguridad para el Operador de Cortadoras AEM/FEMA – formato VHS

☐ Video de Seguridad para el Operador de Cortadoras AEM/FEMA – formato DVD

☐ Manual del Operador de la Cortadora

☐ Manual de Seguridad del Operador de la Cortadora AEM

Nombre del solicitante _____ Teléfono: _____

Dirección del solicitante: _____

Ciudad _____

Estado _____

Código postal _____

Modelo de cortadora: _____ Número de serie: _____

Fecha de compra: _____ Vendedor del distribuidor: _____

Nombre del distribuidor: _____ Dirección del distribuidor: _____

Enviar por correo a:

AEM Video Services

1502 E. Walnut Street

Seguin, TX 78155

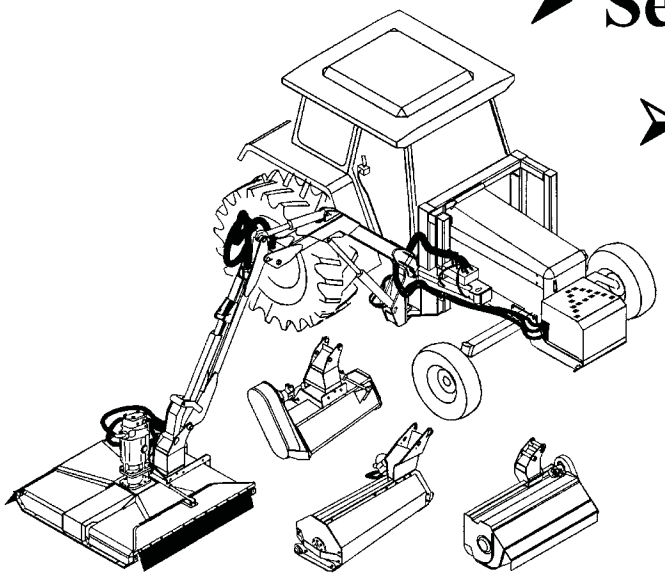
O enviar por fax a:

(830) 372-9529

O enviar por correo electrónico a:

AEMVideo@alamo-group.com

Video de cortadora AEM



➢ Sea Seguro

➢ Sea Alerto

➢ Sea Vivo

➢ Sea Entrenado antes de funcionar el cortacésped

TERRAINKING™
Engineering Practical Solutions™

Entrenamiento de Seguridad Hace la Diferencia

A fin de reducir la tasa de accidentes y mejorar la operación segura de las cortadoras, Terrain King se ha asociado con otros fabricantes de la industria para desarrollar el video y la guía de Prácticas de Seguridad para Cortadoras Industriales y Agrícolas AEM/FEMA.

El video explica a los operadores de tractores y cortadoras las prácticas seguras que deben adoptar cuando utilizan cortadoras industriales y agrícolas. Es importante que todos los operadores de cortadoras aprendan cómo operar sus equipos de corte y puedan reconocer los posibles peligros que pueden surgir al operar una cortadora. Este video, en conjunto con el manual del operador de la cortadora y los mensajes de advertencia que se encuentran en la cortadora, serán muy útiles para complementar este aprendizaje tan importante.

Es posible que su distribuidor autorizado de *Terrain King* le haya mostrado este video y le haya entregado una copia en DVD cuando adquirió su cortadora. Si usted o algún operador de cortadora no vio el video: mire el video, lea este Manual del Operador, y complete la Guía del Video antes de operar su cortadora nueva. Si no comprende alguna de las instrucciones del video o del manual del operador, o si tiene alguna pregunta acerca de la operación segura, comuníquese con su supervisor, con el distribuidor o con Terrain King.

Si desea recibir una copia del video en VHS, envíe un mensaje de correo electrónico a AEMVideo@alamo-group.com o un fax al (830) 372-9529, o envíe por correo una copia rellenada del formulario que se encuentra al dorso de esta página a AEM VHS Video 1502 E Walnut Street, Seguin, TX 78155, y solicite la versión en VHS. Indique su nombre, dirección postal, modelo de cortadora y número de serie.

Cada uno de los operadores debe recibir capacitación para cada equipo (tractor y cortadora), comprender el uso previsto, y comprender los posibles peligros antes de operar el equipo.

La informacion y material mecionado en la informacion anterior junto con el Manual de Operador puede asistir en cumplir con los requisitos de OSHA para el entrenamiento anual del Operador.

REQUISITOS DE ENTRENAMIENTO DEL OSHA

Los seguientes requisitos de entrenamiento se an tomoda del Titulo 29, código de la pieza de regulaciones federales 1928.57 (a) (6). www.osha.gov

Instrucciones del operador. A la hora de la asignación inicial y por lo menos anualmente después de eso, el empleador mandará a cada empleado quien opera un tractor agricola o implemento en las practicas de operación segura y el mantenimiento de el equipo con el cual el empleado esté, o estará implicado y de cualquier otras prácticas dictados por el ambiente laboral..

Al propietario/operador/distribuidor

Este Manual del Operador es una parte esencial de la operación segura de esta máquina y se debe mantener con la unidad siempre. El implemento incluye un porta manual donde se puede guardar el manual de manera adecuada. Si el manual se extravía o se daña, puede solicitar otra copia sin cargo a un distribuidor autorizado de *Terrain King* o descargarlo del sitio web de *Terrain King* (www.terrainking.com).

ANTES DE COMENZAR LEA, COMPRENDA y SIGA la información incluida en este manual, el Manual de Seguridad de la Cortadora AEM y el manual del operador del tractor para conocer cómo operar la máquina y realizar tareas de servicio correctamente. De lo contrario, podría sufrir lesiones u ocasionar lesiones a terceros. Todos los implementos con partes móviles son potencialmente peligrosos. Cada esfuerzo ha sido hecho para asegurar que la màquina esté segura, pero los operadores deben evitar entrar en prácticas peligrosas y seguir las instrucciones escritas que son proporcionadas. El fabricante ha diseñado este implemento para ser usado con todos sus equipos de seguridad correctamente sujetados para minimizar la probabilidad de accidentes.

LA SEGURIDAD PRIMERO. Lea con atención la totalidad de la sección de seguridad de este manual antes de operar el equipo. No permita que nadie opere el equipo sin haber leído y comprendido la totalidad de este manual. Comuníquese con el distribuidor si necesita explicación sobre alguna instrucción que no haya comprendido del todo.

Los cuidados que brinde a su Implemento *Terrain King* determinarán en gran medida su satisfacción con el desempeño y la vida útil del equipo. Lea con atención y siga las instrucciones de este manual para comprender cabalmente su nuevo implemento, su uso previsto, y sus requisitos de servicio.

Todas las referencias que se hacen en este manual a derecha, izquierda, frontal, trasero, arriba y abajo corresponden a la perspectiva en el sentido del desplazamiento hacia delante con el implemento correctamente sujetado al tractor.

La información sobre repuestos se encuentra por separado en el Manual de Partes. Las cortadoras *Terrain King* utilizan componentes del sistema equilibrados y coincidentes para porta cuchillas, cuchillas, ejes de corte, hojas, ganchos para hojas, rodillos, componentes de los engranajes, y cojinetes. Estas partes se fabrican y se prueban según las especificaciones de *Terrain King*. Las partes compatibles no genuinas no siempre cumplen con estas especificaciones. El uso de partes no genuinas puede perjudicar el desempeño de la cortadora, anular la garantía y presentar un riesgo para la seguridad. Use partes genuinas *Terrain King* para ahorrar dinero y maximizar la seguridad.

Para referencia futura, registre el número de modelo y el número de serie de *Terrain King* que ha adquirido.

Distribuidor		Teléfono		Fecha de compra:	
Owner		Fecha de compra:		Serial Number	

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MANUAL DE OPERADOR

KB1800
KB2200

Cortadora Con Brazo Hydráulico

Este Manual del Operador es una parte esencial de la operación segura de esta máquina y se debe mantener con la unidad siempre. LEA, ENTIENDA, y SIGA las Instrucciones de Seguridad y Operación contenidas en este manual antes de operar el equipo. *C01-Cvr Kubota_SP*

Publicado en 08/11

Parte nº. 37002988395

Terrain King
1502 E. Walnut St.
Seguin, Texas 78155-5202
800-882-5756

ATTENTION!
Read Manual

If you do not read spanish
please flip manual over
for safety information in english.

MEMBER OF THE ALAMO GROUP
ALWAYS ON THE CUTTING EDGE®

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$0.00